

In the
United States Court of Appeals
For the Seventh Circuit

Nos. 20-1774, 20-1776, 20-1777, 20-1780, 20-1781, 20-1782, 20-1783, 20-1784 & 20-1785

GLENN BURTON, JR., RAVON OWENS, AND CESAR SIFUENTES
Plaintiffs-Appellees,

v.

E.I. DU PONT DE NEMOURS AND COMPANY, INC., THE SHERWIN-
WILLIAMS COMPANY, AND ARMSTRONG CONTAINERS, INC.
Defendants-Appellants.

Appeals from the United States District Court for the
Eastern District of Wisconsin.

Nos. 07-CV-0303, 07-CV-0441, 10-CV-0075 — **Lynn Adelman**, *Judge.*

ARGUED DECEMBER 9, 2020 — DECIDED APRIL 15, 2021

Before WOOD, SCUDDER, and ST. EVE, *Circuit Judges.*

ST. EVE, *Circuit Judge.* These sprawling toxic-tort cases take us into the weeds of Wisconsin products liability law. The product at issue is white lead carbonate—a dry white powder historically used as the “pigment” in many lead-based paints. Paint has two essential components: the pigment, which hides

and protects the painted surface, and the liquid “vehicle,” which allows the pigment to be spread across the surface. Over time a consensus developed that lead-based paints were toxic and posed especially great dangers to young children, who were prone to chewing paint flakes or putting scattered lead dust into their mouths during critical stages of brain development. These dangers led the federal government to ban lead-based paint for residential use in 1978. Wisconsin followed suit two years later. Even after these bans, however, lead-based paint remained on the walls of many homes throughout the United States.

The plaintiffs in these consolidated cases are three young men who grew up in Milwaukee homes that had lead-based paint on the walls. They were diagnosed with lead poisoning as young children in the 1990s or early 2000s. Years later, they filed these lawsuits against several manufacturers of white lead carbonate, seeking compensation for brain damage and other injuries resulting from their ingestion of lead paint particles. The plaintiffs identified the paint pigment in their childhood homes as white lead carbonate, but they could not identify the specific company responsible for manufacturing the white lead carbonate that they ingested. To overcome this failure of proof, they relied on *Thomas ex rel. Gramling v. Mallett*, 701 N.W.2d 523 (Wis. 2005), in which the Wisconsin Supreme Court adopted a “risk-contribution” theory of liability for plaintiffs suing manufacturers of white lead carbonate. The risk-contribution theory modifies the ordinary rule in tort law that a plaintiff must prove that a specific defendant’s conduct caused his injury. It instead seeks to apportion liability among the “pool of defendants” who could have caused the injury.

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After years of pretrial litigation, the plaintiffs went to trial against five manufacturers of white lead carbonate. The jury found three of the manufacturers liable and awarded the plaintiffs \$2 million each. The three defendants found liable (E.I. du Pont de Nemours and Company, Inc., the Sherwin-Williams Company, and Armstrong Containers, Inc.) now appeal. They challenge a long list of the district court's pretrial, trial, and post-trial rulings. We see no error in many of these rulings, and we commend the district court for its thoughtful attention and diligent effort throughout this complex case. Nonetheless, we hold that the court committed three significant legal errors about the scope of Wisconsin products liability law. These errors shaped the trial and impermissibly expanded the defendants' potential liability. Along with a separate error in the admission of certain expert testimony, they compel us to reverse the judgments and remand for further proceedings.

I. Background

Wisconsin's risk-contribution theory is at the heart of this appeal.¹ In this section we trace the development of the risk-contribution theory to provide context for the plaintiffs' lawsuits. We then describe the facts and procedural history giving rise to this appeal.

A. Legal Background

1. *Collins*

The risk-contribution theory has its origins in *Collins v. Eli Lilly Co.*, 342 N.W.2d 37 (Wis. 1984). In that case, Therese

¹ The parties agree that Wisconsin law governs these diversity cases.

Collins's mother took diethylstilbestrol (DES) while pregnant with Collins in 1957–58. DES was a miscarriage-prevention drug that was on the market from 1947 to 1971. In 1971, medical research established a possible statistical link between DES and the later development of vaginal cancer in children exposed to DES in utero. After developing vaginal cancer in 1977, Collins sued various drug companies that had produced or marketed DES while her mother was pregnant.

Under traditional tort law, Collins faced an “insurmountable obstacle”: she could not identify which drug company had produced or marketed the DES that her mother had taken. *Id.* at 45. She could not do so because DES was a “fungible drug produced with a chemically identical formula.” *Id.* at 44. Moreover, hundreds of different companies had produced or marketed DES. And, owing to the passage of time, records and evidence pertaining to drug companies' production or marketing of DES and Collins's mother's prescription were largely unavailable.

The Wisconsin Supreme Court was “faced with a choice of either fashioning a method of recovery for the DES case which will deviate from traditional notions of tort law, or permitting possibly negligent defendants to escape liability to an innocent, injured plaintiff.” *Id.* at 45. While acknowledging that “DES cases pose difficult problems,” the court concluded that, “as between the plaintiff, who probably is not at fault, and the defendants, who may have provided the product which caused the injury, the interests of justice and fundamental fairness demand that the latter should bear the cost of injury.” *Id.* at 49. Relying on its authority under the Wisconsin Constitution to fashion an adequate remedy, *see* Wis. Const. art. I, § 9, the court proceeded to adopt a risk-contribution theory of

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recovery for DES plaintiffs, adding that “this method of recovery could apply in situations which are factually similar to the DES cases.” *Collins*, 342 N.W.2d at 49. The rationale for the risk-contribution theory was that the defendant drug companies had, at the very least, “contributed to the *risk* of injury to the public” by producing or marketing a drug that turned out to have harmful side effects. *Id.* Moreover, the “possibly responsible” drug companies were in a better position than the “innocent plaintiff” to absorb the cost of, and protect against, injuries from DES. *Id.* at 49–50.

As for how the risk-contribution theory would apply: a plaintiff would need to sue at least one defendant and prove “that the plaintiff’s mother took DES; that DES caused the plaintiff’s subsequent injuries; that the defendant produced or marketed the type of DES taken by the plaintiff’s mother; and that the defendant’s conduct in producing or marketing the DES constituted a breach of a legally recognized duty to the plaintiff.” *Id.* at 50. While a plaintiff only had to sue one defendant, there were incentives to sue as many as possible, and named defendants were free to implead other drug companies as third-party defendants.

The court made clear that the risk-contribution theory was available for both negligence and strict liability claims. A plaintiff proceeding on either theory would have to prove the traditional elements of the claim, with one exception. Instead of proving that a defendant drug company caused the plaintiff’s injuries, the plaintiff would only have to prove that the defendant “produced or marketed the type of DES taken by the plaintiff’s mother.” *Id.* at 51.

If a plaintiff succeeded in making this *prima facie* showing, the burden would shift to the defendant to prove “that it

did not produce or market the subject DES either during the time period the plaintiff was exposed to DES or in the relevant geographical market area in which the plaintiff's mother acquired the DES." *Id.* at 52. To prevail on these defenses, a defendant would have to prove that "the DES it produced or marketed could not have reached the plaintiff's mother." *Id.*

The goal of this burden-shifting procedure was to create "a pool of defendants which it can reasonably be assumed could have caused the plaintiff's injuries." *Id.* at 52. The court acknowledged that the risk-contribution theory could result in liability for innocent defendants, but it accepted this possibility as "the price the defendants, and perhaps ultimately society, must pay to provide the plaintiff an adequate remedy under the law." *Id.*

Finally, the court added that the doctrine of comparative negligence would permit the jury to equitably "apportion liability among the defendants that have been unable to exculpate themselves." *Id.* at 53. In allocating liability, the jury could consider various factors, including: whether a defendant tested DES for safety and efficacy or took steps to protect or warn the public; the defendant's role in securing government approval of DES; the defendant's market share in the relevant area; and whether the defendant produced or marketed DES even after it knew the relevant risks. *Id.* at 54.

2. *Thomas*

In *Thomas*, the Wisconsin Supreme Court considered whether to extend *Collins's* risk-contribution theory to white lead carbonate pigment. 701 N.W.2d at 523. Steven Thomas suffered lead poisoning as a young child after he ingested lead paint particles in two of his childhood homes. Years later,

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Thomas sued his former landlords and several manufacturers of white lead carbonate seeking compensation for his injuries, which included brain damage and a heightened risk of future medical complications.

From a legal standpoint, Thomas was in the same boat as Collins: he could not identify which company had manufactured the white lead carbonate that he had ingested as a child, given the “generic nature” of white lead carbonate, the large number of producers, and the lack of available records and evidence. *Id.* at 532. As such, he sought to hold the pigment manufacturers liable under *Collins’s* risk-contribution theory. The lower courts rejected Thomas’s proposed extension of *Collins* because Thomas was not without a remedy—he could, and did, recover from his landlords.

The Wisconsin Supreme Court reversed, holding that Thomas’s case was similar enough to Collins’s case to warrant application of the risk-contribution theory. *Id.* at 557. As in *Collins*, the pigment manufacturers contributed to the risk of injury to the public by producing or marketing a harmful product. They were also better positioned to absorb the costs of the injuries. And, like Collins, Thomas could not identify “the precise manufacturer of the white lead carbonate that caused his injuries.” *Id.* at 559. On this point, the court rejected the manufacturers’ argument that white lead carbonate—which came in three different chemical formulas—was not fungible. It held that chemical identity was not necessary for fungibility. The court reasoned that a product could be “fungible” in three different senses: (1) functionally interchangeable; (2) physically indistinguishable; or (3) uniform in risk level. *Id.* at 560–61. The court concluded that, when viewing

the factual record in the light most favorable to Thomas, white lead carbonate was fungible in all three senses.

The court proceeded to reject the manufacturers' other arguments as to why *Collins* should not apply. First, the "drastically larger" window of liability—potentially several decades or more, depending on when a house was built—was not a reason to let the pigment manufacturers off the hook. "[T]he Pigment Manufacturers' argument must be put into perspective: they are essentially arguing that their negligent conduct should be excused because they got away with it for too long." *Id.* at 562. Next, the court rejected the argument that *Collins* should not apply because lead poisoning had multiple potential causes and did not produce a "signature injury." While it agreed with the argument's premises, the court reasoned that these were issues for the jury. *Id.* at 563. Finally, the court rejected the argument that *Collins* should not apply because the pigment manufacturers were not in exclusive control of the risk that their product created:

[A]s doctors were the ones who prescribed the dosage of DES, so too were the paint manufacturers that mixed the amount of white lead carbonate in the paint. However, the paint did not alter the toxicity of the white lead carbonate anymore than the pharmacist did by filling a prescription. To the contrary, at best, the paint manufacturers actually diluted the white lead carbonate's toxicity. In other words, the inherent dangerousness of the white lead carbonate pigment existed the moment the Pigment Manufacturers created it.

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The Wisconsin Supreme Court then set forth the elements of both negligence and strict liability claims for white lead carbonate plaintiffs. As in *Collins*, Thomas's burden was relaxed "only with respect to establishing the specific type of DES the plaintiff's mother took, which, in this case, translates into the specific type of white lead carbonate Thomas ingested." *Id.* Thomas only had to "prove that the Pigment Manufacturers produced or marketed white lead carbonate for use during the relevant time period: the duration of the houses' existence." *Id.* at 564. If Thomas could make out a prima facie case, the burden would shift to the defendant to prove "that it did not produce or market white lead carbonate either during the relevant time period or in the geographical market where the house is located." *Id.* Unlike in *Collins*, moreover, the pigment manufacturers might have additional defenses, "including that lead poisoning could stem from any number of substances (since lead itself is ubiquitous) and that it is difficult to know whether Thomas's injuries stem from lead poisoning as they are not signature injuries." *Id.* at 564–65.

Two Justices dissented, expressing dismay that the pigment manufacturers could be "held liable for a product they may or may not have produced, which may or may not have caused the plaintiff's injuries, based on conduct that may have occurred over 100 years ago when some of the defendants were not even part of the relevant market." *Id.* at 567–68 (Wilcox, J., dissenting); *see also id.* at 590 (Prosser, J., dissenting) ("[T]his court has now created a remedy for lead paint poisoning so sweeping and draconian that it will be nearly impossible for paint companies to defend themselves or, frankly, for plaintiffs to lose.").

3. *Godoy*

In *Thomas*, the Wisconsin Supreme Court made clear that it was not reaching the merits of Thomas's claim, but only deciding whether he was eligible to rely on the risk-contribution theory. *See id.* at 528–29 nn.2 & 4. A few years after *Thomas*, the court had occasion to consider the merits of a white lead carbonate claim. *See Godoy ex rel. Gramling v. E.I. du Pont de Nemours & Co.*, 768 N.W.2d 674 (Wis. 2009). Like Thomas, Ruben Baez Godoy sustained lead poisoning after he ingested white lead carbonate in his childhood home. Proceeding under *Thomas*, Godoy sued several manufacturers of white lead carbonate, asserting both negligence and strict liability claims. His legal theory was that white lead carbonate was defectively designed.

As an initial matter, the court rejected Godoy's argument that the product in question was actually "residential paint pigment." *Id.* at 682. For one thing, Godoy's complaint focused exclusively on "white lead carbonate." *Id.* Plaintiffs in products liability cases, the court explained, "must—at minimum—identify the product alleged to be defective." *Id.* "Doing so puts the defendant on notice and allows the defendant to begin building a defense." *Id.* More fundamentally, the product at issue could not be residential paint pigment because the risk-contribution theory applied only to "fungible and identically defective" products. *Id.* In *Thomas*, that product was white lead carbonate pigment. The court made clear that it had never applied the risk contribution theory to "residential paint pigment," or to "paint containing white lead carbonate." *Id.* at 683 & n.10.

On the merits, the court rejected Godoy's argument that white lead carbonate was defectively designed. The court

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explained that Wisconsin courts had “discussed three categories of product defects—manufacturing defects, design defects, and defects based on a failure to adequately warn.” *Id.* at 683. Godoy’s negligence and strict liability claims rested on a design defect, meaning “the design itself is the cause of the unreasonable danger.” *Id.* at 683–84. Godoy’s theory of design defect was that the presence of lead rendered white lead carbonate defectively designed. The court disagreed: “A claim for defective design cannot be maintained where the presence of lead is the alleged defect in design, and its very presence is a characteristic of the product itself. Without lead, there can be no white lead carbonate pigment.” *Id.* at 685. Although Godoy’s negligence and strict liability claims were “separate avenues of recovery,” they both failed on this ground. *See id.* at 681 n.7.

4. Wisconsin Statute § 895.046 & *Gibson*

In 2011, the Wisconsin legislature passed Wis. Stat. § 895.046, which effectively overruled *Thomas* while preserving *Collins*. The statute reinstates ordinary causation principles in all products liability cases, while carving out a narrow exception for plaintiffs like *Collins* who have no other remedy and whose injuries stem from a “complete[ly] integrated product” produced in “chemically and physically identical” forms and sold in generic packaging. § 895.046(4). In 2013, the legislature amended § 895.046 to make it retroactive. *See* § 895.046(2). The statute “assures that businesses may conduct activities in this state without fear of being sued for indefinite claims of harm from products which businesses may never have manufactured, distributed, sold, or promoted, or which were made and sold decades ago.” § 895.046(1g). To

that end, the statute also includes certain time limits and joinder requirements. § 895.046 (4)(b), (5).

In *Gibson v. American Cyanamid Co.*, 760 F.3d 600 (7th Cir. 2014), we considered whether applying § 895.046 retroactively to extinguish already pending white lead carbonate claims would violate the Wisconsin Constitution's due process guarantee. Applying the Wisconsin Supreme Court's two-step framework, we held that it would. *Id.* at 609. First, Gibson had "a 'vested right' in his claims under *Thomas's* risk-contribution theory." *Id.* Second, § 895.046 lacked a rational basis because the private interest at stake outweighed the public interest that the statute promoted. *Id.* at 609–10. At both steps of the analysis, we held that Wisconsin Supreme Court precedent "dictate[d]" our conclusions. *Id.* (citing *Matthies v. Positive Safety Mfg. Co.*, 628 N.W.2d 842, 861 (Wis. 2001) (holding unconstitutional the retroactive application of a statute extinguishing the right to recover on a common law negligence claim under an unmodified doctrine of joint and several liability); *Martin by Scoptur v. Richards*, 531 N.W.2d 70, 93 (Wis. 1995) (holding unconstitutional the retroactive application of a statute extinguishing the right to recover an unlimited amount of non-economic damages)). We went on to hold that *Thomas* did not violate the Federal Constitution. *Gibson*, 760 F.3d at 627.

Following our decision in *Gibson*, the Wisconsin Supreme Court split 3–3 (with one Justice not participating) on the first issue we addressed in *Gibson*: whether retroactively applying § 895.046 to white lead carbonate claims would violate the Wisconsin Constitution's due process guarantee. *Clark ex rel. Gramling v. Am. Cyanamid Co.*, 877 N.W.2d 117 (Wis. 2016).

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B. Factual and Procedural Background

This legal background sets the stage for this case. The net effect of *Thomas*, § 895.046, and *Gibson* was a six-year window (2005–2011) in which plaintiffs in Wisconsin could rely on the risk-contribution theory to sue white lead carbonate manufacturers for injuries arising from their ingestion of white lead carbonate as children. Approximately 170 such lawsuits were filed. The three plaintiffs here were the first to go to trial. The parties selected their cases as “bellwethers” for the other cases, which remain pending before the district court.

1. The Plaintiffs’ Claims

The sad sequence of events leading to the plaintiffs’ claims will by now look familiar. As young children in the 1990s or early 2000s, Glenn Burton, Jr., Ravon Owens, and Cesar Sifuentes lived in Milwaukee homes (built between 1899 and 1922) that had paint containing white lead carbonate. While they were young children, the plaintiffs had elevated blood lead levels ranging from 31 (Burton) to 48 (Sifuentes) to 53 (Owens) micrograms per deciliter at their peak. For context, Wisconsin currently defines lead poisoning as “a level of lead in the blood of 5 or more micrograms per [deciliter] of blood.” Wis. Stat. § 254.11(9). (This number has steadily decreased over time.) Sifuentes and Owens were hospitalized and received chelation therapy to reduce their blood lead levels.

Relying on Wisconsin’s risk-contribution theory, the plaintiffs—who could not identify the manufacturer of the white lead carbonate in their childhood homes—sued six white lead carbonate manufacturers for both negligence and strict liability, seeking to hold them liable for brain damage and other injuries resulting from their ingestion of white lead

carbonate as young children. The plaintiffs filed their lawsuits separately, but the district court consolidated them for trial.

2. The Defendants' Production of White Lead Carbonate

Only three of the defendants below are parties to this appeal: DuPont, Sherwin-Williams, and Armstrong. The plaintiffs sued Armstrong in its capacity as successor-in-interest to the John R. MacGregor Lead Company. The three defendants below who are not parties to this appeal are: American Cyanamid Company, NL Industries, Inc. (formerly known as the National Lead Company), and the Atlantic Richfield Company. As explained below, the district court dismissed American Cyanamid for lack of personal jurisdiction, National Lead settled, and the jury found Atlantic Richfield not liable.

DuPont, Sherwin-Williams, and Armstrong each manufactured white lead carbonate for a period in the twentieth century. DuPont manufactured white lead carbonate at a factory in Philadelphia from 1917 to 1924. It incorporated its white lead carbonate into its own paint products, which included ready-mixed paint and white lead-in-oil—a paste commonly sold to “master painters” who combined it with other ingredients to make their own paint. During this period, DuPont sold some of its ready-mixed paint products in Milwaukee through a wholesaler. After it stopped making white lead carbonate in 1924, DuPont continued making and selling paint products containing white lead carbonate manufactured by other companies until 1966. From 1925 to 1946, National Lead manufactured white lead-in-oil for DuPont. As part of this arrangement, DuPont supplied National Lead with the ingredients and specifications for manufacturing white lead-in-oil. DuPont then sold the finished white lead-in-oil under its own brand name.

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Sherwin-Williams manufactured white lead carbonate from 1910 to 1947 and used its white lead carbonate as an ingredient in its own paint products. Sherwin-Williams had a presence in the Milwaukee market during this time. Apart from its own white lead carbonate manufacturing, Sherwin-Williams sold products containing other companies' white lead carbonate pigment from 1880 to 1969. In 1955, Sherwin-Williams began including warnings about the dangers of ingesting lead on some of its lead-based paints.

MacGregor (Armstrong's predecessor-in-interest) manufactured white lead carbonate at a plant in Chicago from 1938 to 1971. MacGregor used its white lead carbonate as an ingredient in its "Scotch Laddie" line of paint. Scotch Laddie paint appeared in advertisements and telephone directories in Milwaukee between 1957 and 1971. MacGregor also sold its white lead carbonate to other paint manufacturers for use in their paint products.

3. Pretrial Rulings

The district court made three significant pretrial rulings that shaped the trial. First, the court granted summary judgment to Sherwin-Williams and Armstrong on the plaintiffs' negligent failure-to-warn claims. The court reasoned that the plaintiffs' caregivers already knew that lead pigment was dangerous and needed no further warning. The court pointed out that Sherwin-Williams and other paint manufacturers started issuing product warnings in 1955—long before the plaintiffs were exposed in the 1990s or early 2000s. Meanwhile federal, state, and local governments began warning of the risks of lead-based paint in homes in the 1970s. The plaintiffs' caregivers even testified at their depositions that they knew, before the plaintiffs' exposure to lead-based paint, that

children should not eat paint chips because of the risk of lead exposure. For these reasons, the defendants had no duty to warn as a matter of law. Still, the court ruled that the plaintiffs could pursue negligence claims “based on the general duty of ordinary care.”

Second, the court largely denied Sherwin-Williams’s and Armstrong’s motions for summary judgment on the plaintiffs’ strict liability failure-to-warn claims. The court began by distinguishing between duty to warn in the negligence and strict liability contexts, reasoning that negligence requires a duty to warn the plaintiff whereas strict liability requires a duty to warn the “ordinary consumer” who purchased or used white lead carbonate or paint containing white lead carbonate when the defendants put those products on the market. The court found a genuine issue of material fact as to whether the defendants had a duty to warn these ordinary consumers. At the same time, the court ruled as a matter of law that the defendants had no duty to warn in their capacity as pigment manufacturers who merely sold pigment to other companies or master painters. The court explained: “It makes little sense for the [white lead carbonate] manufacturer to owe a duty to warn the consumer at the moment that the pigment is delivered to the paint manufacturer, because the [white lead carbonate] manufacturer has no effective means of communicating that warning.” The court thus granted summary judgment to the defendants on the plaintiffs’ strict liability failure-to-warn claims to the extent that the defendants supplied white lead carbonate to other companies.

Third, less than six weeks before trial, the court denied DuPont’s motion to exclude evidence of its post-1924 contracts to purchase white lead-in-oil from National Lead. It also

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denied Sherwin-Williams's motion to exclude evidence of its production or promotion of paint products containing another company's white lead carbonate. The court reasoned that *Thomas* contemplated liability for producing or "marketing" white lead carbonate and selling products that contained another company's white lead carbonate amounted to "marketing" white lead carbonate. The defendants moved for reconsideration, arguing that the court's ruling contradicted *Thomas*, *Godoy*, the plaintiffs' longstanding theory of the case, and the court's prior rulings. In the alternative, they moved to continue trial and reopen discovery so that they could prepare a defense according to this broader theory of liability. The court denied these motions, reasoning that *Thomas* put them on notice that they could be liable for marketing paint products containing another company's white lead carbonate.

The court also made several other relevant pretrial rulings: It granted summary judgment to the plaintiffs on the issues of whether white lead carbonate was "fungible" and whether Armstrong was the successor-in-interest to MacGregor. It denied summary judgment to Sherwin-Williams and Armstrong on the issue of whether § 895.046 barred the plaintiffs' claims. It denied the defendants' motion to exclude the testimony of two of the plaintiffs' experts: Dr. Idit Trope and Dr. James Besunder. And it denied Sherwin-Williams's motion to exclude evidence and arguments about its constitutionally protected product advertisements and association with industry groups.

National Lead settled before trial. This was a significant development because, as the district court explained, "[p]laintiffs and defendants alike understand National Lead to have been a leading manufacturer of [white lead carbonate]

pigment with a significant presence in the Milwaukee market during the first half of the Twentieth Century.” National Lead settled pursuant to a “*Pierringer* release,” according to which “a tort plaintiff settles with a tortfeasor, reserves its right to pursue claims against other joint tortfeasors, and agrees to indemnify the settling tortfeasor for any claims for contribution that non-settling tortfeasors might bring against the settling tortfeasor.” *Bruner Corp. v. R.A. Bruner Co.*, 133 F.3d 491, 494 (7th Cir. 1998) (citing *Pierringer v. Hoyer*, 124 N.W.2d 106 (Wis. 1963)).

On its own initiative, and over the defendants’ objections, the court bifurcated the trial into two phases: a liability phase and an apportionment phase. Relying on *Collins*, the court explained that phase one would yield a “pool of defendants” that could have caused the plaintiffs’ injuries. Phase one would also determine the plaintiffs’ overall damages. Phase two would focus on allocating the damages based on equitable factors like market share and the defendants’ respective roles in the industry. See *Collins*, 342 N.W.2d at 52–53. The court then made the related decision to exclude evidence of National Lead’s market share and role in the Milwaukee market from phase one, finding that such evidence would be confusing, irrelevant, and prejudicial. As the court explained, “National Lead’s unusual position as a settled defendant whose liability and proportional responsibility remained live issues presented significant legal and evidentiary issues.” While National Lead’s large market share in Milwaukee was relevant to the allocation of damages, it was irrelevant to whether other defendants were present in the Milwaukee market. Meanwhile, it would be all too easy for other defendants to point the finger at National Lead during the liability phase in hopes of exculpating themselves entirely.

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4. Trial

The cases proceeded to trial against the remaining five defendants. The plaintiffs went to trial on the two claims that had survived summary judgment: ordinary negligence and strict liability failure-to-warn. To prove their claims, the plaintiffs presented evidence of the dangers of lead-based paint to young children; awareness and recognition of these dangers among the medical and scientific communities, the paint industry, and the defendants specifically; the defendants' continued production, marketing, promotion, and advertisement of white lead carbonate and products containing white lead carbonate; and the plaintiffs' childhood ingestion of white lead carbonate and subsequent injuries.

To prove their injuries, the plaintiffs relied largely on the expert testimony of Dr. Trope and Dr. Besunder. Dr. Trope, a neuropsychologist, performed neuropsychological evaluations on each plaintiff and concluded that each had neuropsychological impairments indicating brain damage. She explained that a neuropsychological evaluation gauges brain function by testing various "domains" such as cognitive ability, language functioning, visual motor functioning, memory, attention and concentration, and executive functions like judgment, organization, conceptualization, and information processing. She testified that abnormally large discrepancies across the plaintiffs' functional domains led her to conclude that each plaintiff had brain damage. On cross-examination, Dr. Trope testified that the plaintiffs' history of lead poisoning was a substantial contributing factor to their neuropsychological dysfunction. The plaintiffs objected during this cross-examination that they had not offered Dr. Trope to prove causation.

Dr. Besunder, a pediatric critical care physician and toxicologist who treats children with lead poisoning, testified to the fact, source, and extent of each of the plaintiffs' injuries. Dr. Besunder did not personally evaluate any of the plaintiffs. Instead, he relied on Dr. Trope's neuropsychological evaluations and general epidemiological studies on the effects of lead poisoning in children. Relying on the neuropsychological evaluations, Dr. Besunder testified that each of the plaintiffs had brain damage. Like Dr. Trope, Dr. Besunder based this conclusion on "significant deviations" in the plaintiffs' functional domains. Dr. Besunder further testified that lead poisoning caused plaintiffs' brain damage. He explained that the plaintiffs' functional deficits were consistent with patterns of brain damage in lead-poisoned children documented by the medical and scientific literature. He testified that he had reviewed the plaintiffs' medical records to rule out other potential causes of their brain damage.

Finally, Dr. Besunder attempted to quantify the plaintiffs' brain damage. He testified that each of the plaintiffs had lost at least 10 IQ points due to lead poisoning. He explained that "several studies" had "attempted to quantitate the impact of lead levels up to approximately 20 to 30 micrograms per deciliter" and "all those studies have very similar results, that by the time your leads level is approaching the 25 to 30 range that child has lost approximately 10 IQ points." He testified that children with blood lead levels above 30 would have lost additional IQ points, but he stuck with the "conservative estimate of 10 IQ points" because "the medical literature will only allow me to give an approximate quantitative estimate for lead levels up to 30." He explained that the studies he relied on controlled for alternative causes. He conceded, however,

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that he had not published his methodology for quantifying IQ loss and that he did not have a baseline IQ for the plaintiffs.

The defendants' primary line of defense at trial was "chemical exculpation." Each of the defendants called experts to testify to differences in the chemical composition of the paint samples taken from the plaintiffs' childhood homes and the defendants' residential paint formulas.

At the close of evidence, the court dismissed American Cyanamid for lack of personal jurisdiction. The court submitted the plaintiffs' case against the other four defendants to the jury. The jury found DuPont, Sherwin-Williams, and Armstrong liable on both claims. It awarded \$2 million in damages to each of the plaintiffs. The jury found Atlantic Richfield not liable. The trial never reached phase two—where the jury would have apportioned the damages among the defendants—because the three defendants found liable chose to settle, assigning 12.5% of fault to National Lead and splitting the rest among themselves on a joint and several basis.

5. Post-Trial Rulings

The defendants filed various post-trial motions. They each moved for judgment notwithstanding the verdict, arguing that Wisconsin's judicial public policy factors precluded their liability. *See Fandrey ex rel. Connell v. Am. Family Mut. Ins. Co.*, 680 N.W.2d 345, 350 (Wis. 2004). They also moved for a new trial, challenging the court's pretrial legal rulings, the sufficiency of the evidence, and the court's decision to bifurcate the trial. Sherwin-Williams and Armstrong moved for judgment as a matter of law on similar grounds.

The court denied the defendants' post-trial motions, with one exception: it agreed to remit Burton's damages award

from \$2 million to \$800,000 because Dr. Besunder admitted during trial that, of the 10 IQ points that Burton lost due to lead poisoning, he lost six of them before he moved to the home that he focused on at trial.

The defendants now appeal.

II. Discussion

The defendants raise a host of challenges on appeal. We focus primarily on three foundational issues concerning the scope of Wisconsin products liability law and the defendants' corresponding potential for liability. First, all three defendants argue that the district court improperly extended *Thomas* by allowing the jury to find them liable in their capacity as paint manufacturers, rather than white lead carbonate manufacturers. Second, Sherwin-Williams argues that the court erroneously allowed the jury to find it liable on the negligence claims without proof of a product defect. Third, Sherwin-Williams and Armstrong contend that the court erroneously allowed the jury to find them liable on the strict liability claims in the absence of a duty to warn or any proof that the lack of a warning caused the plaintiffs' injuries. Our review of Wisconsin law convinces us that the defendants are correct on all three counts. We see no merit in the defendants' remaining challenges, with one exception: we hold that the court abused its discretion in admitting Dr. Besunder's testimony about the plaintiffs' IQ loss.

A. The Risk-Contribution Theory

We begin with the defendants' challenge to the court's application of the risk-contribution theory. The defendants argue that the district court improperly extended *Thomas* by allowing the plaintiffs to hold them liable in their capacity as

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manufacturers of finished paint products, and not just in their capacity as manufacturers of white lead carbonate.

The district court denied the defendants' motions in limine on this point, ruling that the plaintiffs could introduce evidence of the defendants' production or sale of paint containing another company's white lead carbonate. The court stood by its pretrial ruling when denying the defendants' motions for a new trial. We review both rulings for abuse of discretion. *Turubchuk v. S. Ill. Asphalt Co., Inc.*, 958 F.3d 541, 548–49 (7th Cir. 2020). An evidentiary ruling that rests on a legal error is, by definition, an abuse of discretion. *United States v. Chaparro*, 956 F.3d 462, 474 (7th Cir. 2020). We will grant a new trial only if “the verdict is against the weight of the evidence, the damages are excessive, or if for other reasons the trial was not fair to the moving party.” *Pickett v. Sheridan Health Care Ctr.*, 610 F.3d 434, 440 (7th Cir. 2010) (quoting *Emmel v. Coca-Cola Bottling Co. of Chi.*, 95 F.3d 627, 636 (7th Cir. 1996)). Evidentiary errors warrant a new trial “if the evidentiary errors had ‘a substantial and injurious effect or influence on the determination of a jury and the result is inconsistent with substantial justice.’” *Fields v. City of Chi.*, 981 F.3d 534, 544 (7th Cir. 2020) (quoting *Lewis v. City of Chi. Police Dep’t*, 590 F.3d 427, 440 (7th Cir. 2009)).

As set forth above, each of the defendants was both a white lead carbonate manufacturer and a manufacturer of finished paint products at various points in the twentieth century. They maintain that the risk-contribution theory applies to them only in their capacity as manufacturers of white lead carbonate. We agree; the Wisconsin Supreme Court has expressly limited the risk-contribution theory to manufacturers of white lead carbonate.

1. Scope of *Thomas*

In *Thomas*, the court invariably referred to the defendants as “pigment manufacturers.” The court used this term when setting forth the elements of *Thomas*’s cause of action. *Thomas*, 701 N.W.2d at 564. At one point, the court even drew a critical distinction between “pigment manufacturers” and “paint manufacturers.” The pigment manufacturers in *Thomas* had argued that they should not be liable because they “were not in exclusive control of the risk their product created ...” *Id.* at 563. In other words, the pigment manufacturers attempted to shift the blame to paint manufacturers—the companies that sold lead-based paints directly to consumers. The court rejected this argument. In doing so it analogized paint manufacturers to DES prescribers: while paint manufacturers mixed white lead carbonate into paint, they “did not alter the toxicity of the white lead carbonate anymore than the pharmacist did by filling a prescription.” *Id.* If anything, “the paint manufacturers *actually diluted* the white lead carbonate’s toxicity.” *Id.* (emphasis added). “[T]he inherent dangerousness of the white lead carbonate pigment existed the moment the *Pigment Manufacturers* created it.” *Id.* (emphasis added).

We noted the significance of this passage in *Gibson*. In rejecting the argument that *Thomas* had discriminated against out-of-state corporations by imposing the risk-contribution theory against out-of-state pigment manufacturers but not in-state paint makers and retailers, we commented: “This argument makes an inferential leap too far, and also ignores *Thomas*’s discussion of pigment manufacturers’ greater culpability, when compared to paint makers and retailers.” *Gibson*, 760 F.3d at 627 n.11 (describing *Thomas* as holding that “if

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anything, paint makers and retailers reduced the risk of harm by diluting the lead pigment”).

Finally, *Godoy* confirmed that the risk-contribution theory applies only to white lead carbonate pigment. The lower court had “mistakenly stated” that the product in *Thomas* was “paint containing white lead carbonate.” *Godoy*, 768 N.W.2d at 682 n.10. The Wisconsin Supreme Court was clear: “This statement misconstrues our holding in *Thomas*.” *Id.* Similarly, the court rejected *Godoy*’s argument that the risk-contribution theory could apply to “residential paint pigment.” *Id.* at 683.

In short, the Wisconsin Supreme Court has held that the risk-contribution theory applies to *white lead carbonate manufacturers* to the extent that they manufacture *white lead carbonate*. Applying risk contribution to paint manufacturers or finished paint products would extend *Thomas* beyond its bounds. *See Thomas*, 701 N.W.2d at 570 (Wilcox, J., dissenting) (“It is important to emphasize that the industry defendants are being sued in their capacity as manufacturers of white lead carbonate and not the finished product, paint.”).

Admittedly, distinguishing between pigment manufacturers and paint manufacturers—and between pigment and paint—can be confusing because pigment does not reach residential consumers unless paint manufacturers sell them a finished paint product. Moreover, many companies, including the defendants here, historically manufactured both pigment and finished paint products. Still, the Wisconsin Supreme Court has made clear that such companies are liable under the risk-contribution theory only in their capacity as manufacturers of white lead carbonate pigment. As a practical matter, this means that a paint manufacturer cannot be liable under the

risk-contribution theory for selling a finished product that contains another company's white lead carbonate. Only the manufacturer of the white lead carbonate can be liable.

Sherwin-Williams and Armstrong blur the issue by arguing that they cannot be held liable as paint manufacturers even if they sold paint containing their own white lead carbonate. This argument is technically correct but inconsequential. Under *Thomas*, a company that manufactures white lead carbonate can be liable under the risk-contribution theory if its white lead carbonate could have injured the plaintiff. 701 N.W.2d at 565. It does not matter how the white lead carbonate reached the plaintiff—whether through the same company's paint or another company's paint. *See id.* at 563 (rejecting the pigment manufacturers' argument that they could not be liable because paint manufacturers altered their products before they reached the residential consumers). Either way, risk contribution applies because the company manufactured white lead carbonate that could have injured the plaintiff. To the extent that Sherwin-Williams and Armstrong suggest that a company can avoid liability entirely under the risk-contribution theory by fully integrating its products and only selling white lead carbonate as an ingredient in its own paints, that argument is nonsensical and has no basis in *Thomas*.

The district court based its more expansive reading of *Thomas* on the Wisconsin Supreme Court's use of the word "marketed." As the district court saw it, a company that sells lead-based paint is "marketing" lead pigment, even if it is not "producing" it. Thus, the court reasoned, a paint manufacturer could be liable for selling paint containing another company's white lead carbonate. We disagree. For one thing, this is a strained interpretation of "marketing" in this context. A

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bookseller does not “market” paper, even though paper is a component of books. More fundamentally, *Thomas* foreclosed this broad conception of “marketing” because it drew a distinction between pigment manufacturers and paint manufacturers and limited its holding to the former. If selling a finished product qualified as “marketing” one of the product’s ingredients, a company that had never manufactured pigment could be liable under *Thomas*. Yet *Thomas* carefully limited its holding to “pigment manufacturers,” and *Godoy* reinforced that limitation. *Thomas*’s reference to “marketing” must be read in context. *Thomas* speaks of “pigment manufacturers” that produce or market white lead carbonate. *Thomas*, 701 N.W.2d at 564. It must be the “pigment manufacturers” doing the producing or marketing—not paint manufacturers or anyone else.

For these reasons, we hold that the district court extended—and did not merely apply—the holding of *Thomas*. We further hold that the court’s extension of *Thomas* was a legal error. The plaintiffs do not dispute that the key feature of DES and white lead carbonate—fungibility—does not carry over to paint, so the core rationale of *Collins* and *Thomas* is inapplicable to paint and paint manufacturers. See *Godoy*, 768 N.W.2d at 682–83. Apart from that, Wis. Stat. § 895.046 forbade the district court’s extension of *Thomas*. To be sure, *Gibson* holds that § 895.046 may not retroactively extinguish the cause of action that *Thomas* recognized. But the plaintiffs’ claims in this case went beyond *Thomas*. The plaintiffs had a vested right to *Thomas*; they did not have a vested right to extend *Thomas*.

2. Prejudice

The court's error requires a new trial because it significantly expanded the scope of the defendants' potential liability and the evidence at trial. It also deprived the defendants of the opportunity to build an appropriate defense. *See Godoy*, 768 N.W.2d at 682–83. For years, the defendants had litigated under the (valid) assumption that they were liable only in their capacity as pigment manufacturers. Less than six weeks before trial, however, the defendants learned for the first time that they were also subject to liability as manufacturers of paint products containing white lead carbonate. The court's last-minute, legally incorrect ruling left them scrambling to adapt their defenses to the plaintiffs' newly enlarged theory of liability.

Consider the prejudice to DuPont. DuPont manufactured white lead carbonate for a narrow seven-year period (1917 to 1924). The court's erroneous legal ruling enlarged DuPont's potential window of liability from that seven-year period to a nearly fifty-year period (1917 to 1966) during which DuPont manufactured paint products containing white lead carbonate.²

In keeping with the court's pretrial ruling, the plaintiffs introduced evidence of DuPont's post-1924 knowledge and conduct and asked the jury to find DuPont liable for its actions through 1966. They also seized on weaknesses in DuPont's primary defense that resulted directly from the court's erroneous ruling. Through no fault of its own, DuPont was

² The plaintiffs suggest that DuPont manufactured white lead carbonate until 1946. But the only evidence they cite indicates that National Lead manufactured white lead-in-oil for DuPont during those years.

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unprepared to rebut these attacks. The court's late-stage ruling meant that DuPont had to expand its chemical-exculpation defense to cover all the paint formulas that DuPont had used during the additional 42 years (1924 to 1966) that were now on the table. At trial, however, the court precluded DuPont's paint-chemistry expert from opining on any of DuPont's post-1924 paint formulas because DuPont had not disclosed any of these opinions before trial. The plaintiffs took full advantage of this gap in DuPont's defense during closing arguments. They argued that DuPont's chemical-exculpation defense failed because its expert "came into this courtroom and offered opinions on the years 1917 to 1924" when "you saw that chart that indicated that they made white lead carbonate products up until 1966."

The prejudice was similar for Sherwin-Williams, whose window of liability expanded from a 37-year period in the first half of the twentieth century (1910 to 1947) to a 90-year period (1880 to 1969) during which it produced or marketed paint products containing white lead carbonate.

Armstrong is in a unique position because its predecessor-in-interest MacGregor was both a pigment manufacturer and a paint manufacturer at all relevant times. While it is still possible that the court's error prejudiced Armstrong, Armstrong has made no attempt on appeal to explain how that is so. In the end, we need not resolve this issue because, as we explain below, Armstrong (like Sherwin-Williams) is entitled to relief on other grounds. DuPont is the only defendant that rests its case on this issue. Given the prejudice we have described, DuPont is entitled to a new trial on both claims that went to trial.

3. *Gibson & Fungibility*

We reject the defendants' other challenges to the court's application of the risk-contribution theory. First, Sherwin-Williams and Armstrong ask us to overrule *Gibson*. They claim that subsequent developments in the law have undermined *Gibson's* analysis. The district court denied the defendants' motion for summary judgment on this point. We review that ruling *de novo*, viewing the evidence in the light most favorable to the non-moving party. *Turubchuck*, 958 F.3d at 548; *see also Chemetall GMBH v. ZR Energy, Inc.*, 320 F.3d 714, 719 (7th Cir. 2003) (explaining that even after a trial we may review an earlier denial of summary judgment if the motion for summary judgment raised legal, and not factual, issues).

We decline to revisit *Gibson*. When we weigh in on an unsettled issue of state law, our conclusion binds us until the state's supreme court says otherwise. *Reiser v. Residential Funding Corp.*, 380 F.3d 1027, 1029–30 (7th Cir. 2004). The Wisconsin Supreme Court has not said otherwise. In fact, it recently split 3–3 on the very question that we addressed in *Gibson*. *Clark*, 877 N.W.2d 117. It would be hard to imagine better evidence that an issue of state law remains unsettled. Moreover, the cases upon which we relied in *Gibson* remain good law. *See Matthies*, 628 N.W.2d at 861; *Martin*, 531 N.W.2d at 93. The defendants suggest that *Lands' End, Inc. v. City of Dodgeville*, 881 N.W.2d 702 (Wis. 2016), rejected the balancing analysis that *Gibson* drew from *Matthies* and *Martin*. But *Lands' End* did not overrule or undermine either case. Only the concurrence questioned the “balancing test” that they applied. *Id.* at 733 (Ziegler, J., concurring). The defendants also cite *Bank Markazi v. Peterson*, 136 S. Ct. 1310 (2016), but that separation of powers case did not change Wisconsin law.

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Second, Armstrong argues that the district court erred in ruling before trial that white lead carbonate was fungible as a matter of law. It maintains that fungibility was a question for the jury. The court resolved this issue at summary judgment, so again our review is *de novo*, though we review the court's denial of a new trial on this basis for abuse of discretion. *Turubchuck*, 958 F.3d at 548; *see also Chemetall*, 320 F.3d at 719.

We easily reject Armstrong's contention that fungibility is a fact question for the jury to resolve. If fungibility were a fact question, then *Thomas* would not have held that white lead carbonate was fungible; it would have held instead that there was a fact issue as to fungibility that precluded summary judgment for the pigment manufacturers. Yet the court held, on the record before it, that "white lead carbonate is fungible"—not merely that the pigment manufacturers were not entitled to summary judgment. *Thomas*, 701 N.W.2d at 561. That holding would make no sense if only the jury could decide fungibility.

The role of fungibility in the risk-contribution theory further confirms that it is a legal issue for the court. Fungibility is a prerequisite to applying the risk-contribution theory. The Wisconsin Supreme Court considers it when deciding whether a plaintiff lacks an adequate remedy at law, such that the Wisconsin Constitution authorizes the court to develop one. *See Collins*, 342 N.W.2d at 44–45; *Thomas*, 701 N.W.2d at 559–562. Judges, not juries, decide whether the plaintiff has a cause of action, and what that cause of action looks like. *See* Paul F. Kirgis, *The Right to a Jury Decision on Questions of Fact Under the Seventh Amendment*, 64 Ohio St. L.J. 1125, 1162 (2003) ("[T]he judge *always* has the exclusive authority to decide which questions should be asked."). As a practical matter, it

would be rather bizarre if the parties had to go to trial just to figure out what legal theory the plaintiff could pursue. We acknowledge that Wisconsin's civil jury instructions list fungibility as an element of a risk-contribution claim. Wis. JI—Civil 3295. Like the district court, we conclude that the jury instructions rest on an incorrect reading of *Collins* and *Thomas*.

The harder question is whether *Thomas* established the fungibility of white lead carbonate for future cases. The Wisconsin Supreme Court has sent mixed signals on this question. *Collins* stated flatly that DES was fungible, without regard to the facts of the case. 342 N.W.2d at 44. *Thomas*, by contrast, tied its fungibility determination to the facts of the case, implying that its determination may not necessarily extend to future cases. 701 N.W.2d at 559 n.47, 561. *Godoy*, meanwhile, proclaimed that *Thomas* had established the fungibility of white lead carbonate pigment as a matter of law: "In *Thomas*, we concluded that for the purposes of risk-contribution, white lead carbonate pigment is fungible, and all manufacturers of white lead carbonate pigment could be held jointly and severally liable for injuries caused by the product." *Godoy*, 768 N.W.2d at 683.

We need not resolve this issue because, even if the fungibility of white lead carbonate hinges on the facts of a particular case, Armstrong has not shown that the white lead carbonate in the plaintiffs' homes was not fungible under any definition that *Thomas* considered. Armstrong states, in conclusory fashion, that it presented evidence in the district court that different types of white lead carbonate have different chemical compositions and physical properties that permit their identification and alter their risk level. But *Thomas* rejected the argument that fungibility requires chemical

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identity. 701 N.W.2d at 559. Even if Armstrong presented evidence that the physical properties of white lead carbonate vary, it does not explain what those variances are or why they make manufacturer identification any easier. As such, the court properly resolved fungibility at summary judgment.

B. Negligence

1. Product Defect

Moving on, Sherwin-Williams alone argues that the district court erred in ruling that the jury could find it negligent in the absence of a product defect. In its view, the court's grant of summary judgment to the defendants on the plaintiffs' negligent failure-to-warn claims should have been the end of the plaintiffs' negligence claims, given that failure to warn was the only product defect that the plaintiffs alleged.

The district court denied Sherwin-Williams's motion for judgment as a matter of law on this point, ruling that Sherwin-Williams could face liability "based on the general duty of ordinary care" even if its products were not defective. We review the court's ruling *de novo*. *Turubchuk*, 958 F.3d at 548. Judgment as a matter of law is proper if "a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue." Fed. R. Civ. P. 50(a)(1). In applying this standard, we view the evidence in the light most favorable to the verdict. *Turubchuk*, 958 F.3d at 548.

In *Dippel v. Sciano*, 155 N.W.2d 55 (Wis. 1967), the Wisconsin Supreme Court adopted the products liability rule of the Restatement (Second) of Torts § 402A (1965). *Id.* at 63. Section 402A supplies the elements of a strict products liability claim, but its rule "is not exclusive, and does not preclude liability based upon the alternative ground of negligence of the seller,

where such negligence can be proved.” Restatement (Second) of Torts § 402A cmt. a; *Godoy*, 768 N.W.2d at 681 n.7.

In recent years, many states have adopted the Third Restatement’s formulation of a products liability claim, which “eschewed the doctrinal labels ‘strict liability’ and ‘negligence’” and “defined the categories functionally, according to their required elements of proof.” *Godoy*, 768 N.W.2d at 681; *see also* Restatement (Third) of Torts: Products Liability § 2 cmt. n (1998). In 2011, the Wisconsin legislature adopted the Third Restatement’s rule, but only for strict liability claims. *See* Wis. Stat. § 895.047. The plaintiffs here filed suit before 2011, so the parties agree that § 895.047 does not apply to their claims.

Godoy explains the basic differences between strict liability and negligence under Wisconsin products liability law. Strict liability and negligence are “separate avenues of recovery” with “substantively different” elements. *Godoy*, 768 N.W.2d at 681 n.7. Strict liability “focuses on the nature of the defendant’s product, whereas liability in negligence ‘hinges in large part on the defendant’s conduct under circumstances involving a foreseeable risk of harm.’” *Id.* (quoting *Green v. Smith & Nephew AHP, Inc.*, 629 N.W.2d 727, 745 (Wis. 2001)); *see also* *Morden v. Cont’l AG*, 611 N.W.2d 659, 673 (Wis. 2001); *Greiten v. LaDow*, 235 N.W.2d 677, 683–86 (Wis. 1975) (controlling opinion of Heffernan, J.).

Despite these differences, the two claims have at least one thing in common: “Both causes of action require a plaintiff to prove that the product causing injury was ‘defective.’” *Godoy*, 768 N.W.2d at 681 n.7 (citing Wis. JI—Civil 3200); *accord* *Morden*, 611 N.W.2d at 673 (“The coexistence of the two theories [i.e., negligence and strict liability] has sparked confusion and

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criticism because both rely on an underlying product defect.”). As for what constitutes a product defect, *Godoy* explains that “Wisconsin cases have discussed three categories of product defects—manufacturing defects, design defects, and defects based on a failure to adequately warn.” 768 N.W.2d at 683. Thus, a negligence claim must be predicated on one of those three categories of product defects. *See id.* at 681 n.7, 683.

We have acknowledged, as *Morden* did, that distinguishing between strict liability claims and negligence claims in the products liability context can be confusing. *Insolia v. Philip Morris Inc.*, 216 F.3d 596, 603 (7th Cir. 2000); *Flaminio v. Honda Motor Co., Ltd.*, 733 F.2d 463, 467 (7th Cir. 1984). Indeed, Wisconsin’s continued distinction between the two claims has generated significant criticism. *Morden*, 611 N.W.2d at 673; *Sharp ex rel. Gordon v. Case Corp.*, 595 N.W.2d 380, 388 (Wis. 1999) (summarizing criticism but declining to overrule precedent); Restatement (Third) of Torts: Products Liability § 2 cmt. n (discussing the “mischief caused by dual instructions on both negligence and strict liability”). We need not wade into this debate. We do note, however, that the claims’ shared requirement of a product defect has been at the heart of the criticism. *Morden*, 611 N.W.2d at 673; *see Sharp*, 595 N.W.2d at 388; Restatement (Third) of Torts: Products Liability § 2 cmt. n.

Requiring a product defect for negligence claims makes sense because otherwise a defendant might be found negligent merely for making and selling a potentially dangerous product. “It is boilerplate law that, merely because a product or an operation is not as safe as possible, because there are better methods of manufacture or performing an operation does not lead to the conclusion that the method employed was

undertaken with a lack of ordinary care or the product was defective.” *Greiten*, 235 N.W.2d at 685 (controlling opinion of Heffernan, J.); *see also Collins v. Ridge Tool Co.*, 520 F.2d 591, 594 (7th Cir. 1975) (“[A] manufacturer is under no duty to produce accident or fool-proof products. Neither is the manufacturer an insurer that its product is incapable of producing injury.”) (citation omitted). Allowing a claim of negligence without a product defect, as the district court did here, allows a jury to find the defendant negligent in the absence of any actual negligence, whether in the design, manufacture, or marketing of a product. There is a name for this type of liability—it is called strict liability, not negligence. *See* Restatement (Second) of Torts § 402A(2)(a) (allowing liability even if “the seller has exercised all possible care in the preparation and sale of his product”).

The district court’s theory was that the defendants could be found negligent because they continued to sell white lead carbonate pigment for residential uses while knowing the dangers that it posed to homeowners and their children. It found support for this broad theory of liability in Judge Learned Hand’s famous B<PL formula. *See United States v. Carroll Towing Co.*, 159 F.2d 169, 173–74 (2d Cir. 1947). The court reasoned that the jury could find Sherwin-Williams negligent if the burden (B) of discontinuing the production and sale of white lead carbonate pigment for residential uses was outweighed by the probability (P) that children might ingest it and suffer a serious injury or loss (L) as a result.

Carroll Towing cannot do the heavy lifting that the district court required of it. To begin, Wisconsin law governs this diversity case. We do not fault the court for looking to a foundational federal case to help elucidate the principles

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underpinning Wisconsin negligence law. But the court should not have relied on *Carroll Towing* to create a pathway to liability that Wisconsin courts had foreclosed. In any event, *Carroll Towing* does not support the court's theory of liability. *Carroll Towing* was not a products liability case, and it certainly did not hold that a company could be found negligent merely for marketing a dangerous product. Critically, *Carroll Towing* involved a negligent act: the defendant there was liable because it left a barge unattended. Here there is no negligent act to speak of, apart from Sherwin-Williams's sale of a potentially dangerous product. Given these distinctions, the court should not have transposed the B<PL formula (which Wisconsin courts have never relied on) into Wisconsin products liability law. Instead, the court should have applied Wisconsin law, which does not recognize a negligence claim absent a product defect.

The plaintiffs resist this conclusion, but they do not cite any Wisconsin cases (nor have we found any) holding that a defendant can be negligent in the absence of a product defect. Rather, they resort to the general proposition that negligence focuses on the defendant's conduct whereas strict liability focuses on the condition of the product. That is true enough, but it does not obviate the need for a product defect. Rather, it means that "under a negligence theory, a plaintiff will not prevail by showing *only* that a product was defective." *Morden*, 611 N.W.2d at 673 (emphasis added).

The plaintiffs also suggest that, even if Wisconsin products liability law ordinarily requires a product defect, *Thomas* chose not to impose this requirement in the risk-contribution context. We find no support for this argument in *Thomas*. As we have said, *Thomas* did not reach the merits; it considered

only whether risk contribution could apply. Moreover, Thomas's claim *did* rely on a product defect—failure to warn. See *Thomas*, 701 N.W.2d at 528 n. 2 (declining to reach defendants' arguments about failure to warn); *id.* at 569 n.2 (Wilcox, J., dissenting) ("The claims before this court are predicated on the defendants' failure to warn of the dangers of their product."); *Godoy*, 768 N.W.2d at 683 ("*Thomas* was based on failure to warn claims."). Even if *Thomas* were susceptible to the plaintiffs' reading of it, *Godoy* forecloses that reading by providing that negligence claims in the risk-contribution context require a product defect.

The absence of a product defect forecloses recovery on the plaintiffs' negligence claims. The plaintiffs concede, as they must, that their negligence claims do not rest on a product defect. The district court held at summary judgment that the plaintiffs could not proceed on a negligent failure-to-warn theory. And the plaintiffs have never asserted a design defect or manufacturing defect. As *Godoy* makes clear, those are the only types of product defects that Wisconsin courts have recognized. With no product defect, there can be no negligence liability. This means that Sherwin-Williams is entitled to judgment as a matter of law on the plaintiffs' negligence claims.

2. Duty & Causation

We reject Sherwin-Williams's other attacks on the negligence verdict. Apart from the lack of a product defect, Sherwin-Williams objects to the district court's duty analysis and its jury instruction on causation. Duty and causation are essential elements of a negligence claim under the risk-contribution theory (as they are in tort law generally). *Thomas*, 701 N.W.2d at 564.

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The court's duty analysis was sound. Under *Thomas*, a plaintiff must prove that "the Pigment Manufacturers' conduct in producing or marketing the white lead carbonate constituted a breach of a legally recognized duty to [the plaintiff]." *Id.* Setting aside the district court's failure to require a product defect, which impacts "breach," the court did not err in concluding that Sherwin-Williams had a "legally recognized duty" to the plaintiffs. *Thomas* altered the causation standard, but it did not modify the duty of ordinary care. *See id.* at 563 (noting that *Thomas*'s burden was relaxed "only with respect to establishing ... the specific type of white lead carbonate [he] ingested"). In Wisconsin, "one has a duty to exercise ordinary care under the circumstances." *Hoida, Inc. v. M & I Midstate Bank*, 717 N.W.2d 17, 28 (Wis. 2006). "Ordinary care involves the concept of foreseeability, in that a reasonable person exercising ordinary care would have foreseen injury as a consequence of his act." *Id.* at 29. "Whether a duty exists under the circumstances, and the scope of any such duty, are questions of law" *Brenner v. Amerisure Mut. Ins. Co.*, 893 N.W.2d 193, 198 (Wis. 2017).

Here, the court ruled that "the defendants owed a duty to exercise ordinary care in manufacturing and marketing" white lead carbonate for residential application because the risks it posed to children were foreseeable. Contrary to Sherwin-Williams's arguments, the court did not predicate its ruling on a general duty to the world at large. Sherwin-Williams is also wrong to suggest that the court's finding of a duty of ordinary care conflicted with its finding that Sherwin-Williams had no duty to warn the plaintiffs. The duty to warn is just one potential manifestation of the duty of ordinary care. *See Wis. JI—Civil 3200; see also Morden*, 611 N.W.2d at 673–75. In some circumstances, the duty of ordinary care requires a

warning. Here, the district court found that Sherwin-Williams had no duty to warn for purposes of the plaintiffs' negligence claims. Even so, it correctly recognized that Sherwin-Williams might still have a duty to take other actions to prevent foreseeable harms. (Again, a separate question is whether Sherwin-Williams *breached* that duty. See *Morden*, 611 N.W.2d at 675–76.)

Nor, if we assume contrary to fact that the negligence claim should have gone to the jury, did the court err in instructing the jury on causation. “We review jury instructions *de novo* to determine whether, taken as a whole, they correctly and completely informed the jury of the applicable law.” *Huff v. Sheahan*, 493 F.3d 893, 899 (7th Cir. 2007). The court instructed the jury to decide whether the white lead carbonate that the plaintiffs ingested caused their injuries. Sherwin-Williams contends that the proper question was whether its *negligence* caused the injuries.

The court's jury instruction correctly stated the law. The second element of a negligence claim under the risk-contribution theory requires the plaintiff to prove “[t]hat the white lead carbonate caused his injuries.” *Thomas*, 701 N.W.2d at 564. That is precisely what the court here told the jury to decide. Granted, *Thomas's* articulation of the causation element of a negligence claim conflicts with ordinary negligence law, which requires a causal link between a defendant's negligence and the plaintiff's injury. *Fondell v. Lucky Stores, Inc.*, 270 N.W.2d 205, 209 (Wis. 1978). But the whole point of *Thomas* was to modify ordinary causation principles. We cannot accept Sherwin-Williams's suggestion that *Thomas* was simply sloppy with its language. *Thomas* was setting forth the elements of a novel cause of action for white lead carbonate

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plaintiffs. We find it hard to believe that the court was sloppy in carrying out that task. Indeed, we know that *Thomas*'s statements about causation were not an accident because one of the dissents criticized the very language about which Sherwin-Williams now complains. *Thomas*, 701 N.W.2d at 591 (Prosser, J., dissenting). The district court lifted its causation instruction straight from *Thomas*. That was not error.

C. Strict Liability

Sherwin-Williams and Armstrong both challenge the strict liability verdict. They say (1) the district court erred in ruling that they could have a duty to warn for purposes of strict liability but not negligence; and (2) that the plaintiffs failed to prove that any failure to warn caused their injuries. The district court rejected the first argument at summary judgment and again when denying the defendants' motion for judgment as a matter of law. Our review is therefore *de novo*. *Turubchuk*, 958 F.3d at 548; *see also Chemetall*, 320 F.3d at 719. The court rejected the second argument when denying the defendants' motion for a new trial. We review that ruling for abuse of discretion. *Turubchuk*, 958 F.3d at 548.

Thomas set forth the elements of a *prima facie* case of strict liability in white lead carbonate cases. To prevail at trial, the plaintiffs had to prove:

- (1) That the white lead carbonate was defective when it left the possession or control of the pigment manufacturers;
- (2) That it was unreasonably dangerous to the user or consumer;
- (3) That the defect was a cause of [the plaintiffs'] injuries or damages;

(4) That the pigment manufacturer engaged in the business of producing or marketing white lead carbonate or, put negatively, that this is not an isolated or infrequent transaction not related to the principal business of the pigment manufacturer; and,

(5) That the product was one which the company expected to reach the user or consumer without substantial change in the condition it was when sold.

Thomas, 701 N.W.2d at 564. The defendants' challenge focuses on the first and third elements: defect and causation.

1. Product Defect

We begin with product defect. Unlike their negligence claims, the plaintiffs predicated their strict liability claims on a product defect—failure to warn. Although the district court had ruled at summary judgment that the defendants had no duty to warn the plaintiffs for purposes of the negligence claim, it distinguished the duty to warn in the strict liability context. Whereas negligence required a duty to warn the plaintiffs, strict liability required a duty to warn the “ordinary users and consumers” who purchased or used the defendants' products when the defendants sold them—decades before they reached the plaintiffs. The court found a genuine issue of material fact as to whether these “ordinary users or consumers” would have needed a warning about the dangers of lead-based paint, given that the dangers were less widely known in the early to mid-twentieth century.

A properly designed and manufactured product may still be defective if “an intended use of the product is dangerous, but the manufacturer did not provide sufficient warning or instruction.” *Godoy*, 768 N.W.2d at 684. Importantly, warnings

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are necessary only when a product's dangers are hidden. In a negligence action, a manufacturer is not liable unless it "has no reason to believe that those for whose use the chattel is supplied will realize its dangerous condition." *Strasser v. Transtech Mobile Fleet Serv., Inc.*, 613 N.W.2d 142, 155 (Wis. 2000) (quoting Restatement (Second) of Torts § 388 (1965)). Similarly, in a strict liability action, "manufacturers have an obligation to warn consumers about *the hidden dangers* of their products." *Godoy*, 768 N.W.2d at 685 n.15 (emphasis added) (citing Restatement (Second) of Torts § 402A cmts. h, i).

The Wisconsin Supreme Court has not addressed the difference, if any, between the duty to warn for negligence and strict liability claims, but we and other courts applying Wisconsin law have treated them as materially identical. *See, e.g., Flaminio*, 733 F.2d at 467 (holding that the difference between negligent and strict liability duty-to-warn claims, "if any," was "so small" that the district court's failure to give separate instructions on them was harmless); *Gracyalny v. Westinghouse Elec. Corp.*, 723 F.2d 1311, 1317 n.11 (7th Cir. 1983) ("[I]n duty to warn cases, emphasis upon the nature and scope of the warning has led to a convergence of the functional identities of strict products liability and negligence."); *Mohr v. St. Paul Fire & Marine Ins. Co.*, 674 N.W.2d 576, 590 n.10 (Wis. Ct. App. 2004) ("[T]he proof requirements for an inadequate warning on a strict product liability claim are the same as for breach of the duty to warn on a negligence claim."); *Tanner v. Shoupe*, 596 N.W.2d 805, 811 n.3 (Wis. Ct. App. 1999); *Lemmermann v. Blue Cross Blue Shield of Wis.*, 713 F. Supp. 2d 791, 810 (E.D. Wis. 2010); *Nigh v. Dow Chem. Co.*, 634 F. Supp. 1513, 1517 (W.D. Wis. 1986).

It makes sense that the duty to warn would be the same for both types of claims because failure to warn is a type of product defect and defect is a shared requirement for negligence and strict liability claims. *Godoy*, 768 N.W.2d at 681 n.7; *Morden*, 611 N.W.2d at 673. If there is any substantive difference between negligent and strict liability failure-to-warn claims, it likely stems from the second requirement of a strict liability claim: that the defect render the product unreasonably dangerous. *See Morden*, 611 N.W.2d at 673 (“In a negligence action, by contrast, it is not necessary to show that the condition of the product reached the level of unreasonable dangerousness.”); *Sharp*, 595 N.W.2d at 388.

The district court rooted its divergent approach in *Thomas*, which requires, as the first element of a strict liability claim, that the “white lead carbonate was defective *when it left the possession or control of the pigment manufacturers.*” 701 N.W.2d at 564 (emphasis added). From this language, the court inferred that the duty to warn in strict liability hinges on whether the dangers of white lead carbonate were hidden to the consumers of residential paint products who existed when the defendants released their products into the market.

We grant that, under *Thomas*, the absence of a warning must have existed when the white lead carbonate left the possession or control of the pigment manufacturer. Still, the *necessity* of a warning should depend on what the ultimate consumer (i.e., the plaintiffs or their caregivers) knew, rather than what consumers in general knew at the time the manufacturer released the product into the market. *See* Restatement (Second) of Torts § 402A cmt. g (“The rule stated in this Section applies only where the product is, at the time it leaves the seller’s hands, in a condition not contemplated by the *ultimate*

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consumer, which will be unreasonably dangerous to him.”) (emphasis added); *Morden*, 611 N.W.2d at 673 (“It is sufficient [in strict liability] for the plaintiff to show that the product *reached him* in a dangerously defective condition.” (emphasis added) (quoting *Greiten*, 235 N.W.2d at 684) (controlling opinion of Heffernan, J.)). The purpose behind the requirement that a product be defective when it leaves the hands of a manufacturer is to protect the manufacturer from liability for later-arising defects: “The seller is not liable when he delivers the product in a safe condition, and subsequent mishandling or other causes make it harmful by the time it is consumed.” Restatement (Second) of Torts § 402A cmt. g. It is not to untether the duty to warn from the ultimate consumer. The focus must always remain on the ultimate consumer. *See id.*

In shifting the focus away from the plaintiffs and toward “ordinary consumers” living decades earlier, the district court seems to have relied on the “consumer-contemplation” test. *See* Restatement (Second) of Torts § 402A cmt. i (“The article sold must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it, with the ordinary knowledge common to the community as to its characteristics.”); *Green*, 629 N.W.2d at 739. Even if that test was relevant to duty to warn, it focuses on ordinary consumers *in the plaintiffs’ situation*. *See Insolia*, 216 F.3d at 600 (“[W]hat the ordinary consumer contemplated about the dangers of smoking should be evaluated at the time the plaintiffs began smoking.”). If any “ordinary consumers” were relevant, it was those who consumed residential paint when the plaintiffs (or their caregivers) did. It was not the broad and amorphous category of individuals who consumed residential paint at any time when the defendants were

manufacturing white lead carbonate—i.e., during large chunks of the twentieth century.

For these reasons, the court legally erred in finding that the defendants had a duty to warn for purposes of strict liability after ruling at summary judgment that they had no duty to warn the plaintiffs on their negligence claims. The plaintiffs have not appealed the court's ruling that the defendants had no duty to warn for purposes of the negligence claims. This ruling compels judgment as a matter of law for Sherwin-Williams and Armstrong on the strict liability claims.

2. Causation

We turn next to causation. Before trial, the court ruled that each plaintiff had to prove “that the presence of inadequately-warned-about [white lead carbonate] on the market during the existence of the residence where the plaintiff ingested [white lead carbonate] was a substantial factor in causing the plaintiff's injury.” It acknowledged that proving such a “tenuous connection” would be “a tall order.” But it rejected the defendants' argument that the plaintiffs had to present expert testimony to prove causation; in the court's view, inferring causation did “not require specialized technical, scientific or medical knowledge,” but could “be made on the basis of common understandings of human behavior.”

Consistent with this ruling, the court instructed the jury to decide whether the plaintiffs had proven that “the allegedly defective warnings were a cause of the plaintiffs' injuries.” To answer “yes,” the jury had to find that “the sale of white lead carbonate with inadequate warnings was a substantial factor in causing the plaintiffs' injury.” For example, the jury could “consider whether the persons responsible for selecting and

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applying paint in the plaintiffs' homes throughout the buildings' existence would have heeded warnings about the risk of childhood lead exposure if such warnings had been issued."

It turns out that this causation standard was indeed a "tall order" for the plaintiffs. It is essentially undisputed that the plaintiffs presented no evidence at trial that the supposed defect—failure to warn—caused their injuries. In closing arguments, the plaintiffs appealed to the jurors' "common sense," arguing that "moms and dads back in the '20s and '30s and '40s and '50s" would never have purchased paint containing white lead carbonate if they had known the risks it posed to their children. But the only evidence they relied on was testimony that consumers in the first half of the twentieth century were unaware of the risks of white lead carbonate. They introduced no evidence of whether adequate warnings would have altered consumer behavior—much less prevented their injuries.

The defendants brought this failure of proof to the district court's attention in their motions for a new trial. The plaintiffs did not respond to these arguments for a new trial. Even so, the court denied the defendants' motions, and in doing so it departed from its earlier theory of causation. Implicitly acknowledging the plaintiff's total failure of proof on this element, the court explained that the plaintiffs did *not* have to show that "appropriate warnings would have changed consumer behavior;" rather, they only had to show "that the dangers posed by [white lead carbonate] were outside the contemplation of the ordinary consumer," at which point it became the *defendants'* burden to prove that their warnings "were sufficient to render safe [the] otherwise dangerously

defective product.” On appeal, the plaintiffs have again failed to respond to the defendants’ causation arguments.

The court was correct the first time: the plaintiffs had to prove that the product defect—i.e., failure to warn—caused their injuries. *See Thomas*, 701 N.W.2d at 564 (requiring proof “[t]hat the defect was a cause of Thomas’s injuries or damages”); *accord Godoy*, 768 N.W.2d at 681 n.7. The court’s post-trial ruling improperly collapsed the second and third elements of a strict liability claim and shifted the burden to the defendants. In *Green*, the Wisconsin Supreme Court advised that a defendant could show that its product was not “unreasonably dangerous” by proving “that the product include[d] a warning or directions that effectively alert[ed] the ordinary consumer” to the product’s dangers. 629 N.W.2d at 754. This inquiry, which goes to the second element of a strict liability claim (unreasonable danger), is separate from the third element (causation). *See Thomas*, 701 N.W.2d at 564; *Godoy*, 768 N.W.2d at 681 n.7. A plaintiff must always prove causation. *See Thomas*, 701 N.W.2d at 564.

Because the plaintiffs do not dispute that they failed to present evidence of causation at trial, we need not address what type of evidence might suffice to prove causation. Moreover, because the defendants do not directly challenge the court’s pretrial ruling on causation or its jury instructions, we need not address whether the court correctly stated the relevant legal principles (before departing from them post-trial).

Normally, the plaintiffs’ failure to prove causation would require at least a new trial. In this case, however, any such relief would be redundant because Sherwin-Williams and Armstrong are already entitled to judgment as a matter of law

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on the strict liability claims, given the absence of a product defect.

We reject the defendants' other attacks on the strict liability verdict. The defendants argue first that the "ordinary consumers" of white lead carbonate were master painters and paint manufacturers, who required no warning as to the dangers of white lead carbonate. The defendants' argument appears to rest on one of two mistaken premises: (1) that products liability claims require "privity of contract," or (2) that component parts suppliers cannot be liable to the ultimate consumer. The Wisconsin Supreme Court has flatly rejected both arguments. *Godoy*, 768 N.W.2d at 681 (noting that the Second Restatement discarded the privity-of-contract requirement); *id.* at 688 ("When component manufacturers introduce defective components into the stream of commerce, they may be held liable for resulting injuries under the particular circumstances of the case.").

Moving to the fifth element of the strict liability claim, the defendants argue that their white lead carbonate could not have reached the plaintiffs without undergoing a "substantial change in condition" — i.e., integration into paint, application of paint to the plaintiffs' homes, and a lack of maintenance allowing the paint to deteriorate and become ingestible. *Thomas*, 701 N.W.2d at 564. "[T]o succeed under the substantial change defense, the change must be both substantial and material." *Godoy*, 768 N.W.2d at 687. "The purpose of this requirement is to protect a manufacturer from liability when the dangerously defective aspect of the product was altered or introduced after the product left the manufacturer's control." *Id.* This is a "fact-intensive inquiry." *Id.*

We agree with the district court that any changes to the defendants' white lead carbonate were "not material, since the [white lead carbonate] was already toxic and in powder form before it underwent these changes." White lead carbonate is the singular source of lead poisoning in paint that contains it. As *Thomas* said, "the inherent dangerousness of the white lead carbonate pigment existed the moment the Pigment Manufacturers created it." 701 N.W.2d at 563. If anything, mixing it into paint "diluted the white lead carbonate's toxicity." *Id.* The deterioration of the paint may have helped facilitate the plaintiffs' ingestion of the white lead carbonate, but it did not introduce or alter its toxicity. The jury was on firm ground in finding no substantial change in condition.

D. Other Issues

Sherwin-Williams and Armstrong raise several other challenges. Ordinarily we would avoid reaching these issues if possible. We are mindful, however, that there are a slew of similar cases pending at the district court and moving toward trial. As such, we will address some of these other issues in hopes of providing clarity for future trials.

1. Expert Testimony

Sherwin-Williams and Armstrong claim that the plaintiffs failed to prove the existence, cause, and extent of their injuries through admissible evidence. They challenge the district court's admission of Dr. Trope's and Dr. Besunder's testimony on these issues. "We review de novo whether a district court properly followed the framework for determining the admissibility of expert testimony." *Schultz v. Akzo Nobel Paints, LLC*, 721 F.3d 426, 430–31 (7th Cir. 2013); *see also* Fed. R. Evid. 702; *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579

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(1993). If it did, “we review its decision to admit or exclude expert testimony only for an abuse of discretion.” *Schultz*, 721 F.3d at 431. We review de novo the court’s denial of judgment as a matter of law on this ground. *Turubchuk*, 958 F.3d at 548.

Federal Rule of Evidence 702 permits a qualified expert witness to offer an opinion if:

- (a) 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;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

Courts can examine the reliability of an expert’s principles and methods by looking at factors such as “(1) whether the scientific theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) whether a particular technique has a known potential rate of error; and (4) whether the theory or technique is generally accepted in the relevant scientific community.” *Schultz*, 721 F.3d at 431 (citing *Daubert*, 509 U.S. at 593–94). This list is not exhaustive. *Daubert*, 509 U.S. at 593.

Although Rule 702 “places the judge in the role of gatekeeper for expert testimony, the key to the gate is not the ultimate correctness of the expert’s conclusions” but rather “the soundness and care with which the expert arrived at her opinion.” *Schultz*, 721 F.3d at 431. “So long as the principles and methodology reflect reliable scientific practice, [v]igorous

cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Id.* (quoting *Daubert*, 509 U.S. at 596).

We begin with Dr. Trope. The defendants claim that her method for determining that each of the plaintiffs had brain damage—administering a neuropsychological evaluation—was unreliable, primarily because it failed to exclude alternative causes. As Dr. Trope testified, however, she did not need to exclude alternative causes to testify to the *fact* of brain damage. And the defendants’ other attacks on the reliability of neuropsychological evaluations are unpersuasive. Dr. Trope and Dr. Besunder both testified that neuropsychological evaluations are the standard, well-accepted method for ascertaining whether an individual has brain damage. (The defendants’ own expert relied on a similar methodology to testify that the plaintiffs did not have brain damage.) Many of the defendants’ arguments wrongly equate neuropsychological evaluations with basic aptitude tests. As Dr. Trope explained, a neuropsychological evaluation tests how different parts of the brain function compared to one other—not how they function on the whole. Large discrepancies indicate brain damage, according to both Dr. Trope and Dr. Besunder. We see no abuse of discretion in the court’s decision to allow Dr. Trope to testify that the plaintiffs had brain damage. The defendants were free to cross-examine Dr. Trope about any weaknesses in her methodology. *Schultz*, 721 F.3d at 431.

Dr. Trope’s testimony that lead poisoning caused the plaintiffs’ brain damage presents a more difficult question because the plaintiffs did not offer her to prove causation; she testified to it only on cross-examination, over the plaintiffs’

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objections. Moreover, the defendants suggest that Dr. Trope, who is not a medical doctor, was unqualified to diagnose the plaintiffs' brain injuries.

We need not resolve this issue. Any error in the admission of Dr. Trope's causation testimony was harmless because the court was within its discretion to admit Dr. Besunder's causation testimony. Dr. Besunder testified that childhood lead poisoning was the source of the plaintiffs' injuries. He reached that conclusion by comparing their brain functioning—as shown in their neuropsychological evaluations—to documented patterns of brain functioning in other individuals who had suffered childhood lead poisoning. He testified that this type of comparison is a well-accepted method of ascertaining the cause of brain damage, and that he uses it in his own practice. He also testified that he reviewed the plaintiffs' medical records to determine whether there were potential alternative causes of their brain damage. *See Schultz*, 721 F.3d at 434 (noting that “a reliable expert should consider alternative causes” but need not “rule out every alternative cause”); *Myers v. Illinois Cent. R.R. Co.*, 629 F.3d 639, 644–45 (7th Cir. 2010); *see also Thomas*, 701 N.W.2d at 563 (reasoning that the potential for alternative causes of brain damage was an issue for the jury). To the extent that Dr. Besunder could not rule out every alternative cause, the defendants could—and did—try to bring that out through cross-examination. Moreover, the plaintiffs had to prove that lead poisoning was a substantial factor leading to their lead poisoning—not the sole cause. *Schultz*, 721 F.3d at 433 (applying Wisconsin law).

Dr. Besunder's testimony about the extent of the plaintiffs' injuries is a different story. Dr. Besunder's IQ-loss testimony was a critical component of the plaintiffs' cases because it

attempted to measure the extent of their injuries—and, thus, their damages. Yet the district court performed essentially no analysis of whether Dr. Besunder’s methodology—using general epidemiological studies to quantify the plaintiffs’ individual IQ losses—was reliable. The defendants argued, without apparent contradiction, that Dr. Besunder’s methodology was unprecedented. They also argued that it was unreliable because Dr. Besunder did not personally evaluate the plaintiffs, nor did he have any evidence of their baseline IQs—even though the plaintiffs’ other experts testified that they could not quantify the plaintiffs’ IQ losses without knowing the plaintiffs’ parents’ IQ scores. The court dismissed these objections as issues for the jury. But trial judges are the “gatekeeper[s] for expert testimony.” *Schultz*, 721 F.3d at 431. Before allowing an expert to testify before the jury, the judge must ensure that the expert’s “principles and methodology reflect reliable scientific practice.” *Id.* The district court failed to perform its gatekeeping function and ensure that Dr. Besunder’s IQ-loss testimony rested on a reliable methodology, so the court abused its discretion in admitting it.

The district court’s admission of Dr. Besunder’s IQ-loss testimony requires a new trial because there is “a significant chance” that the jury’s identical \$2 million damages awards rested on Dr. Besunder’s testimony about the extent of the plaintiffs’ injuries. *Smith v. Hunt*, 707 F.3d 803, 808 (7th Cir. 2013). (After all, the court remitted Burton’s damages award to \$800,000 post-trial because Dr. Besunder admitted that, of the 10 IQ points that Burton lost due to lead poisoning, he lost six of them before he moved to the home that he focused on at trial.) As a practical matter, this relief only impacts Armstrong’s liability on the negligence claim. For reasons discussed above, Sherwin-Williams is entitled to judgment as a

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matter of law on both claims and Armstrong is entitled to judgment as a matter of law on the strict liability claim.

2. Bifurcation

Next, Sherwin-Williams and Armstrong contend that the district court erred in bifurcating the trial into a liability phase and an apportionment phase and then excluding evidence about National Lead—the dominant producer of white lead carbonate pigment in the Milwaukee market—from the liability phase. They claim that the district court’s rulings hampered their defenses and gave the jury the mistaken impression that at least one of the defendants on the verdict form must have been the responsible party.

We review the court’s decision to bifurcate the trial for abuse of discretion. *Volkman v. Ryker*, 736 F.3d 1084, 1089 (7th Cir. 2013). We use the same standard to review whether the court erred in excluding evidence of National Lead or denying a new trial on this basis. *Turubchuk*, 958 F.3d at 548–49.

We see no abuse of discretion. Absent some clear prejudice, we will not fault the court for attempting to inject some semblance of order into this complex case—especially given district courts’ “inherent authority to manage the course of trials.” *Luce v. United States*, 469 U.S. 38, 41 n.4 (1984). The court’s structure of the trial harmonized with *Collins*’s design to (1) create “a pool of defendants which can reasonably be assumed ‘could have caused the plaintiff’s injuries’” and then (2) apportion liability among those “defendants who cannot exculpate themselves” through comparative negligence. *Thomas*, 701 N.W.2d at 565 (quoting *Collins*, 342 N.W.2d at 52). In this respect we find it relevant that *Collins* expressly declined to adopt a “market-share” theory of liability, instead

holding that market share was “a relevant factor in apportioning liability among defendants.” *Collins*, 342 N.W.2d at 48–49. Under *Collins*, the defendants had every right to point the finger at National Lead during the apportionment phase of trial. They chose instead to settle and assign National Lead 12.5% of the damages. Their informed decision to settle prevents them from now complaining about not having been able to introduce evidence of National Lead’s market domination.

To the extent that evidence of National Lead had any relevance in the liability phase—which is far from clear—the district court did not abuse its discretion in concluding that the likelihood of confusion and prejudice substantially outweighed any such probative value. The defendants strain to connect evidence of National Lead to their liability defenses. As the district court pointed out, it is hard to see how evidence of National Lead’s market domination had any bearing on whether another manufacturers’ white lead carbonate could have reached the plaintiffs, which is the liability inquiry under *Collins*. *Id.* at 52. Meanwhile, it would have been all too easy for the defendants to point the finger at National Lead and rely on the unstated implication that National Lead was probably the responsible party. Such a maneuver would have been inconsistent with the risk-contribution theory that *Collins* and *Thomas* adopted. Finally, there is no basis for the defendants’ assertion that the jury was led to believe that one of the defendants who went to trial must have produced the white lead carbonate that injured the plaintiffs. In fact, the court dismissed American Cyanamid at the close of evidence and then instructed the jury not to consider any claims against American Cyanamid and not to speculate as to why it was no longer a defendant.

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3. Public Policy

Forging along, Sherwin-Williams and Armstrong contend that Wisconsin's judicial public policy factors require overturning the jury verdicts against them. They claim that Wisconsin public policy does not tolerate holding them liable for injuries that they likely did not cause, which occurred decades after they stopped making white lead carbonate. They add that their liability is vastly out of proportion to the culpability of producing or marketing white lead carbonate at a time when it was widely used in residential paints.

We review *de novo* the court's denial of judgment notwithstanding the verdict. *Turubchuk*, 958 F.3d at 548; *see also Fandrey*, 680 N.W.2d at 350 (whether the public policy factors preclude liability is a question of law).

Wisconsin's public policy factors are judicial policy considerations that function like a proximate cause analysis. *See Fandrey*, 680 N.W.2d at 350–51, 351 n.7. “[W]hen a court precludes liability based on public policy factors, it is essentially concluding that despite the existence of cause-in-fact, the cause of the plaintiff's injuries is not legally sufficient to allow recovery.” *Id.* at 353. Overriding a jury verdict based on public policy considerations is “infrequent” and requires “unusual and extreme considerations.” *Roehl Transp., Inc. v. Liberty Mut. Ins. Co.*, 784 N.W.2d 542, 568 (Wis. 2010) (internal quotation marks and citations omitted). The six public policy factors are: (1) is the injury too remote from the defendant's conduct? (2) is the plaintiff's injury disproportionate to the defendant's culpability? (3) is it too extraordinary, in hindsight, that liability would attach here? (4) is the potential liability too burdensome for the defendant? (5) will imposing liability open the way to fraudulent claims? and (6) is there a sensible or just

stopping point to the theory of liability? See *Fandrey*, 680 N.W.2d at 348 n.1.

If the defendants' public policy arguments look familiar, it is because they closely resemble the dissents in *Thomas*. At their core, the defendants' public policy arguments are arguments against *Thomas* itself. One of the dissents in *Thomas* similarly argued that the public policy factors precluded liability. 701 N.W.2d at 596–97 (Prosser, J., dissenting). The majority did not directly engage with that argument, *id.* at 565 n.54, but its reasoning for extending the risk-contribution theory was anchored in countervailing policy considerations, and many of its statements were directly responsive to the dissent's public policy arguments. See, e.g., *id.* at 562 (“[T]he Pigment Manufacturers’ argument must be put into perspective: they are essentially arguing that their negligent conduct should be excused because they got away with it for too long.”); see also *Collins*, 342 N.W.2d at 52 (accepting the possibility that innocent defendants could be found liable as “the price the defendants, and perhaps ultimately society, must pay to provide the plaintiff an adequate remedy under the law”). We cannot accept that the Wisconsin Supreme Court would create a cause of action based on judicial policy considerations only to later hold that the same cause of action would violate judicial policy considerations. The public policy factors operate as a check on liability in rare cases. We will not hold, in essence, that they categorically preclude liability under *Thomas*.

Nor does Wis. Stat. § 895.046 affect our conclusion. Wisconsin's public policy factors are judicial policy considerations whose role stands in “stark contrast” to the legislature's declarations of public policy. *Fandrey*, 680 N.W.2d at 354. That

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is why the public policy factors may preclude liability even where a statute authorizes it. *Id.* at 350.

4. Successor Liability

Armstrong also challenges the district court's ruling at summary judgment that Armstrong was MacGregor's successor-in-interest. Armstrong contends that the relevant asset purchase agreement is ambiguous as to whether Armstrong's admitted predecessor-in-interest assumed MacGregor's future legal liabilities, such as damages arising from the plaintiffs' lawsuits. And because the contract is ambiguous, Armstrong says its meaning was an issue for the jury. Our review is *de novo*. *Turubchuk*, 958 F.3d at 548; *see also Chemetall*, 320 F.3d at 719.

Neither party raised choice of law issues below, so we apply the law of the forum—Wisconsin. *Camp v. TNT Logistics Corp.*, 553 F.3d 502, 505 (7th Cir. 2009) (citing *Wood v. Mid-Valley Inc.*, 942 F.2d 425, 426 (7th Cir. 1991)). Under Wisconsin law, “[w]hen the terms of a contract are clear and unambiguous, we construe the contract’s language according to its literal meaning.” *Ash Park, LLC v. Alexander & Bishop, Ltd.*, 866 N.W.2d 679, 685 (Wis. 2015). “When the terms of a contract are ambiguous, however, evidence extrinsic to the contract itself may be used to determine the parties’ intent, and any remaining ambiguities will be construed against the drafter.” *Id.* “A contract provision is ambiguous if it is fairly susceptible of more than one construction.” *Id.* (quoting *Mgmt. Computer Servs., Inc. v. Hawkins, Ash, Baptie & Co.*, 557 N.W.2d 67, 75 (Wis. 1996)).

In relevant part, the asset purchase agreement provides that Armstrong's predecessor will assume “the liabilities and

obligations” of the sellers, including “[o]bligations with respect to litigation and claims against Sellers other than litigation and claims involving or arising out of liabilities and obligations expressly not assumed.” The agreement also includes a catchall providing that, “[e]xcept for the obligations and liabilities” excluded elsewhere, Armstrong’s predecessor will “assume all other obligations of sellers, whether accrued, contingent or future, based on, related to or arising out of events or occurrences prior to the closing, whether known or unknown and regardless of when arising or asserted.”

Armstrong maintains that the terms “obligations” and “liabilities” are ambiguous, such that its predecessor’s assumption of “obligations with respect to litigation and claims” does not necessarily include all future legal “liabilities,” including damages arising from a lawsuit based on unforeseen events.

We disagree. To be sure, the contract is not a model of clear drafting, and the terms “obligations” and “liabilities” are not used consistently throughout. But, at least in the provisions quoted above, “obligations” must encompass “liabilities” because “obligations” is used as an umbrella term from which other “liabilities and obligations” are excluded. Moreover, the plain terms of the exceptionally broad catchall easily encompass the damages liability in this case (and Armstrong cannot point to any other provision that specifically excludes it).

Even if the contract were ambiguous, moreover, Armstrong has not demonstrated a genuine issue of material fact as to its meaning. When courts are stumped about the meaning of contracts, they do not simply hand the ambiguous contracts to juries. Rather, if a court decides that a contract is ambiguous, the parties may introduce extrinsic evidence of intent, and the jury resolves the fact question of what the parties

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intended, using on the extrinsic evidence. *See Town Bank v. City Real Estate Dev., LLC*, 793 N.W.2d 476, 483 (Wis. 2010). Armstrong does not represent that it has any extrinsic evidence of the parties' intent, so it has not demonstrated a jury issue.

5. First Amendment

Finally, Sherwin-Williams argues that the district court violated its First Amendment rights by allowing the plaintiffs to introduce evidence of its product advertisements and associations with industry groups. The district court deemed this evidence relevant to certain aspects of the plaintiffs' claims, including Sherwin-Williams's knowledge of the hazards of lead-based paint and its presence in the Milwaukee market. And because Sherwin-Williams's liability rested on its production and sale of white lead carbonate—rather than its protected activities—the court saw no constitutional problem with admitting the evidence. We review the court's First Amendment analysis *de novo*, while reviewing its decisions to admit the evidence and deny a new trial for abuse of discretion. *See Turubchuk*, 958 F.3d at 548.

Sherwin-Williams is profoundly mistaken about the role of the First Amendment in evidentiary rulings. The First Amendment does not bar the admission of any and all evidence that falls within its protection. Just last month, we held that such a view of the First Amendment “utterly misunderstands the burdens of production and persuasion in litigation.” *Gonzales v. Madigan*, 990 F.3d 561, 564 (7th Cir. 2021). The First Amendment steps in only when the protected activity itself is the basis for liability. *See NAACP v. Claiborne Hardware Co.*, 458 U.S. 886, 918–19 (1982) (“The First Amendment ... restricts the ability of the State to impose liability on an

individual *solely because* of his association with another.”) (emphasis added). Here, the plaintiffs introduced evidence of Sherwin-Williams’s advertisements and associations to prove elements of their claims. They did not ask the jury to find Sherwin-Williams liable for engaging in these protected activities. *Cf. Snyder v. Phelps*, 562 U.S. 443, 461 (2011) (overturning a jury verdict finding the defendants liable for picketing on matters of public concern). Thus, the district court did not abuse its discretion in admitting this evidence.

We have considered the defendants’ remaining arguments and determined that none merits discussion.

III. Conclusion

For these reasons, we REVERSE the judgments and REMAND for further proceedings consistent with our opinion and the following instructions. Sherwin-Williams is entitled to judgment as a matter of law on both claims that went to trial. Armstrong is entitled to judgment as a matter of law on the strict liability claims and a new trial on the negligence claims. DuPont is entitled to a new trial on both claims.

We close by commending Judge Adelman for his thoughtful dedication to these complex cases. Circuit Rule 36 supplies a default rule of reassignment when cases are remanded for new trials. Given Judge Adelman’s enormous investments of time and effort in these cases, we believe that the interests of judicial efficiency favor retaining Judge Adelman as the trial judge in these cases. We therefore direct that Rule 36 shall not apply on remand. *See* Cir. R. 36 (providing for reassignment “unless the remand order directs ... that the same judge retry the case”).