

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA**

FEDERAL TRADE COMMISSION,

Plaintiff,

v.

**TRONOX LIMITED, NATIONAL
INDUSTRIALIZATION CO., NATIONAL
TITANIUM DIOXIDE CO. LIMITED and
CRISTAL USA INC.**

Defendants.

Civil Action No. X:18-cv-XXXXX-XXX

FILED UNDER SEAL

ORAL ARGUMENT REQUESTED

**MEMORANDUM IN SUPPORT OF PLAINTIFF'S
MOTIONS FOR A TEMPORARY RESTRAINING ORDER AND FOR A PRELIMINARY
INJUNCTION PURSUANT TO SECTION 13(B) OF THE FEDERAL TRADE COMMISSION
ACT**

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INTRODUCTION

The Federal Trade Commission seeks a temporary restraining order and a preliminary injunction to prevent Tronox Limited from acquiring its competitor, National Titanium Dioxide Company and Cristal USA Inc. (collectively, “Cristal”).¹ Tronox and Cristal are two of the top three producers and sellers of titanium dioxide (“TiO₂”) created through the chloride process (“chloride TiO₂”) in the United States and Canada (“North America”).² TiO₂ is a pigment that provides brightness, whiteness, and opacity and is a critical input to a variety of products including paints, coatings, plastics, and paper, among many others. If the Acquisition occurs, two firms (Tronox and The Chemours Company) will dominate the market for the sale of chloride TiO₂ to North American customers, accounting for █████ of sales and over █████ of North American chloride TiO₂ production capacity. And it would increase the likelihood of coordinated interaction among firms in an industry with an already well-documented history of anticompetitive conduct.³

The Federal Trade Commission issued an administrative complaint challenging the proposed transaction, and *has already completed a month-long trial* to adjudicate whether the Acquisition is unlawful. The Administrative Law Judge (“ALJ”) heard live testimony from nineteen fact witnesses, four expert witnesses, and admitted thousands of documents into evidence.⁴ This extensive evidentiary record is closed. The ALJ’s decision is due by November 19, 2018, well before March 31, 2019, the

¹ This transaction will be referred to throughout this brief as the “Acquisition” or “Merger.”

² Although Mexico is undoubtedly part of North America, Defendants and other market participants define the North American market as the United States and Canada. *See infra* note 56.

³ *See Valspar Corp. v. E. I. du Pont de Nemours & Co.*, 873 F.3d 185 (3d Cir. 2017); *In re Titanium Dioxide Antitrust Litig.*, 959 F. Supp. 2d 799 (D. Md. 2013).

⁴ Plaintiff has attached as exhibits to this Memorandum all documents and transcript excerpts cited herein. At the request of the Court, Plaintiff will be happy to provide any additional parts of the extensive trial record.

current termination date of the transaction agreement.⁵ The Commission requests that this Court grant a temporary restraining order and preliminary injunction to prevent Defendants from finalizing their merger before the Commission can render its decision on the merits. Such provisional relief is needed to prevent Defendants from integrating their operations in a way that threatens the Commission's ability to obtain a meaningful remedy in this matter, if it determines that the Merger may substantially lessen competition or tend to create a monopoly.

Consistent with controlling law in this Circuit, the Commission's request for provisional relief seeks only to maintain the status quo until the Commission can render a final decision on the legality of the proposed merger, based on the record from the already-concluded trial on the merits.⁶ The Commission's request is made under Section 13(b) of the Federal Trade Commission Act ("FTC Act").⁷ Under Section 13(b), it is not the role of this Court to rule on the merits of the transaction.⁸ Rather, the Court need only consider whether injunctive relief "would be in the public interest—as determined by a weighing of the equities and a consideration of the Commission's likelihood of success on the merits" in the ongoing administrative proceeding.⁹

Based on the extensive evidentiary record already presented at trial, there is a strong likelihood that the Commission will find the Acquisition unlawful. The Acquisition would substantially increase

⁵ With good cause, the ALJ's deadline can be extended to December 19, 2018. *See* 16 C.F.R. § 3.51. The Commission's Rules contemplate a range of dates by which the Commission must issue its final decision, the latest of which (early April 2019) would require the parties to extend their transaction agreement by a few days. *See* 16 C.F.R. § 3.52.

⁶ *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 714 (D.C. Cir. 2001). *See also* PX9128 at 002 (*In the Matter of Tronox Limited*, No. 9377, Order Denying Respondents' Motion to Stay and Temporarily Withdraw This Matter From Adjudication, May 16, 2018) ("Respondents misunderstand the role of a preliminary injunction in the context of the Commission's Part 3 adjudicative process. The Commission may seek a preliminary injunction to preserve the status quo, *i.e.*, to prevent consummation of the proposed transaction, until the administrative proceeding on the merits takes place.") (citation omitted).

⁷ 15 U.S.C. § 53(b).

⁸ *Heinz*, 246 F.3d at 727.

⁹ *Id.* at 714.

concentration in an already consolidated market, and is therefore presumptively anticompetitive.¹⁰ Moreover, the TiO₂ industry in North America has a long history of price-fixing litigation and subsequent court decisions outline pervasive anticompetitive conduct. As the Third Circuit recently observed, “[t]here is little doubt” that the TiO₂ industry “was conducive to price fixing” because it is a “highly concentrated market for a commodity-like product with no viable substitutes and substantial barriers to entry.”¹¹ The Third Circuit went on to conclude that “[t]here is no dispute that the [TiO₂] market was primed for anticompetitive interdependence and that it operated in that manner.”¹² In a previous proceeding, a federal court in Maryland went further, ruling that “[t]he record contains ample evidence for concluding that the [d]efendants agreed to raise prices and shared commercially sensitive information [] to facilitate their conspiracy.”¹³

As the Seventh Circuit has explained, “an acquisition which reduces the number of significant sellers in a market already highly concentrated and prone to collusion by reason of its history and circumstances is unlawful *in the absence of special circumstances*.”¹⁴ There are no special circumstances here. Rather, there is direct evidence that the merger will lead to higher prices and increase the combined company’s incentive to restrict output. At trial, one of Tronox’s largest customers, PPG, testified that Tronox explicitly told PPG that it intends to raise prices after the transaction closes.¹⁵ Another senior Tronox executive acknowledged in an internal document that the

¹⁰ *Id.* at 715.

¹¹ *Valspar*, 873 F.3d at 197.

¹² *Id.*

¹³ *In re Titanium Dioxide Antitrust Litig.*, 959 F. Supp. 2d 799, 823 (2013). Both Tronox and Cristal’s predecessor company, Millennium, were alleged co-conspirators in the various TiO₂ price-fixing litigations. Cristal was a named defendant in the Maryland case. Tronox was not a named defendant in either case because it was in bankruptcy proceedings at the relevant time.

¹⁴ *FTC v. Elders Grain, Inc.*, 868 F.2d 901, 906 (1989) (emphasis added).

¹⁵ Trial Tr. 280:19–281:1 (Malichky, PPG).

later unravel the combined company's operations and sufficiently replace any lost competition. And despite Defendants' likely arguments to the contrary, this process has caused no delay whatsoever, as Defendants have been unable to close the transaction because of ongoing regulatory review before the European Commission.²² Nor are Defendants short on time, having already extended the deadline for the Merger through March 2019. As a result, the Court should reject any invitation from Defendants to either retry the case that has already been presented to the ALJ or to rule on the antitrust merits of the transaction, contrary to controlling precedent, which assigns that responsibility to the Commission.

Finally, Plaintiff asks that the Court decide the motions for a temporary restraining order and preliminary injunction based on the record of the administrative proceeding. There is no need for another evidentiary hearing. The Court's primary inquiry under Section 13(b) is whether the Plaintiff has demonstrated a likelihood of success in the administrative proceeding, and the record in that proceeding is now closed. Thus, the Court need only conduct a review of the key evidence already presented at trial to determine that preliminary relief is warranted. As the Court will see, preliminary relief is necessary and appropriate to maintain the status quo and protect consumers from harm while the ALJ and the Commission review the full record and rule on the antitrust merits of Defendant's proposed Merger. A temporary restraining order and preliminary injunction are necessary to afford the Commission the opportunity to obtain full relief if the transaction is deemed unlawful, and relief is necessary to protect consumers.

BACKGROUND

TiO₂ is a white pigment that provides opacity (hiding power), whiteness, and brightness to a variety of products. It is a critical input in the manufacture of paints and coatings, certain plastics, and

²² The European competition authority is likely to complete its review and accept a remedy from Defendants as early as July 16, 2018.

other products. TiO₂ is used to make pure white colors, and used as a base for other colors. It is undisputed that there are no substitutes for TiO₂.²³

TiO₂ is manufactured by treating titanium-containing ore, commonly known as feedstock, with chlorine (“chloride TiO₂”) or sulfuric acid (“sulfate TiO₂”). Chloride TiO₂ provides superior opacity, durability, and whiteness compared to sulfate TiO₂²⁴ and constitutes more than 90% of North American TiO₂ purchases. The producers of TiO₂ in North America are Tronox, Cristal, Chemours, Venator and Kronos. Virtually all of the TiO₂ production capacity in North America is for chloride TiO₂—the only sulfate TiO₂ plant in North America is a small Kronos plant in Quebec that is co-located with a much larger Kronos chloride plant.²⁵

ARGUMENT

Tronox has agreed to acquire Cristal from National Industrialization Company (“Tasnee”), Cristal’s parent company in Saudi Arabia, in a transaction valued at approximately \$2.3 billion. Having found reason to believe that the proposed Acquisition violates Section 7 of the Clayton Act, 15 U.S.C. § 18, and Section 5 of the FTC Act, 15 U.S.C. § 45, the Commission issued an administrative complaint on December 5, 2017. Consistent with the FTC’s ordinary practice and basic principles of administrative law, the administrative complaint is prosecuted by “Complaint Counsel” on the Commission’s staff, who are separate from the ALJ and the Commissioners who will ultimately decide the case. *See* 5 U.S.C. § 554(d). After full fact and expert discovery, the administrative trial on the merits began May 18, 2018. It concluded five weeks later, on June 22, 2018. The trial provided both

²³ *E.g.*, PX9104 at 042 (Tronox 2017 Form 10-K) (“At present, it is [Tronox’s] belief that there is no effective mineral substitute for TiO₂ because no other white pigment has the physical properties for achieving comparable opacity and brightness, or can be incorporated as cost effectively.”).

²⁴ *E.g.*, Trial Tr. at 274:17-275:1 (Malichky, PPG); [REDACTED] Trial Tr. at 773:23-774:14, 776:23-777:8 (Christian, Kronos).

²⁵ [REDACTED] Both Tronox and Cristal at one time manufactured sulfate TiO₂ in North America, but closed their plants as demand for sulfate TiO₂ in North America declined in favor of chloride TiO₂.

sides a full opportunity to present testimony and other evidence regarding the likely competitive effects of the Acquisition.

The administrative trial record is now closed, and the parties are actively engaged in post-trial briefing. The ALJ will then issue an Initial Decision on the legality of the proposed Merger. That decision can then be appealed to the full Commission, by Complaint Counsel or the merging parties, and Defendants may seek review of the Commission's final decision in an appropriate Court of Appeals. 15 U.S.C. §§ 21(c), 45(c). But the pendency of the administrative proceeding does not itself block the parties from consummating the Merger. Accordingly, Section 13(b) of the FTC Act authorizes the Commission to seek the aid of a district court to preliminarily enjoin a merger transaction pending the completion of administrative proceedings. *See* 15 U.S.C. § 53(b). That is the relief the Commission seeks here. In other words, the Commission requests that the Court maintain the status quo while the administrative court weighs the evidence and rules on the Acquisition's legality upon a full evidentiary record in the manner prescribed by Congress. It is important to maintain the status quo until the Commission's administrative proceeding concludes because undoing an anticompetitive acquisition after the fact is akin to trying to "unscramble the egg." *FTC v. Penn State Hershey Med. Ctr.*, 838 F.3d 327, 353 (3d Cir 2016) (quotation omitted).

As a result, courts evaluating requests for provisional relief pursuant to Section 13(b) of the FTC Act address a limited question; indeed "[t]he Section 13(b) standard for preliminary injunctions differs from the familiar equity standard applied in other contexts." *FTC v. Sysco Corp.*, 113 F. Supp. 3d 1, 22 (D.D.C. 2015). Under Section 13(b), a preliminary injunction or temporary restraining order should issue when such an order "would be in the public interest—as determined by a weighing of the equities and a consideration of the Commission's likelihood of success on the merits." *Heinz*, 246 F.3d at 714; *see FTC v. Staples, Inc.*, 190 F. Supp. 3d 100, 114 (D.D.C. 2016) (*Staples 2016*).

“Under Section 13(b)’s ‘public interest’ standard, ‘[t]he FTC is not required to *establish* that the proposed merger would in fact violate Section 7 of the Clayton Act.’” *Sysco*, 113 F. Supp. 3d at 22 (quoting *Heinz*, 246 F.3d at 714) (emphasis in original). Nor is it the district court’s task “‘to determine whether the antitrust laws have been or are about to be violated. That adjudicatory function is vested in the FTC in the first instance.’” *FTC v. CCC Holdings, Inc.*, 605 F. Supp. 2d 26 at 67 (D.D.C. 2009) (quoting *FTC v. Whole Foods Mkt., Inc.*, 548 F.3d 1028, 1042 (D.C. Cir. 2008) (Tatel, J., concurring)). Instead, the Court need only determine if the Commission has shown a likelihood of success in the administrative proceeding. The trial in that proceeding has already concluded, and the record is now closed—the ALJ is already in the process of weighing the evidence and making the necessary credibility determinations that will ultimately decide the outcome on the merits.

Consistent with Local Rule 65.1(d),²⁶ there is no need for this Court to hear from live witnesses that have already offered testimony at the trial. Instead, the Court need only review sufficient evidence from the existing trial record to determine whether Complaint Counsel has demonstrated a likelihood of success on the merits. Indeed, federal courts in previous preliminary injunction actions have concluded that live witness testimony was not necessary even where a trial on the merits had not yet occurred:

This case needs to be tried before the Commission. The issue before me is a very narrow one, as to whether or not a preliminary injunction should be issued... As far as live witnesses are concerned, I find that is not necessary. You can present to me by declaration and exhibits whatever evidence you want to present as far as that is concerned.

FTC v. Inova Health Sys. Found., Docket No. 1:08-cv-460 (E.D. Va. May 30, 2008) (Hrg. Tr. at 12:6-21); *see also* *FTC v. ProMedica Health Sys., Inc.*, No. 3:11 CV 47, 2011 WL 1219281, at *1 (N.D. Ohio Mar. 29, 2011); *FTC v. Libbey, Inc.*, 211 F. Supp. 2d 34 (D.D.C. 2002).

²⁶ Local Rule 65.1(d) states that “[t]he practice in this jurisdiction is to decide preliminary injunction motions without live testimony where possible.”

Here, the Commission has demonstrated a likelihood of success on the merits because the high market shares and concentration levels establish the proposed Acquisition as presumptively unlawful. *See United States v. Phila. Nat'l Bank*, 374 U.S. 321, 363 (1963); *Heinz*, 246 F.3d at 715; *Staples 2016*, 190 F. Supp. at 115; *Sysco*, 113 F. Supp. 3d at 52. The evidence Plaintiff presented at trial—that this market is ripe for coordination, that the Acquisition makes coordination more likely, and that the Acquisition would increase incentives for Tronox to suppress output on its own—bolsters that presumption, and with it, the Commission's likelihood of success.

The second prong of Section 13(b) requires the Court to “weigh the public and private equities of enjoining the merger” to determine whether a preliminary injunction or temporary restraining order is in the public interest. *Staples 2016*, 190 F. Supp. 3d at 137; *accord Sysco*, 113 F. Supp. 3d at 86. “The public interests to be considered include (1) the public interest in effectively enforcing antitrust laws; and (2) the public interest in ensuring that the FTC has the ability to order effective relief if it succeeds at the merits trial.” *Staples 2016*, 190 F. Supp. 3d at 137; *accord Sysco*, 113 F. Supp. 3d at 86. These two interests are inextricably linked, and both weigh in favor of granting Plaintiff's motion for a preliminary injunction. *See Staples 2016*, 190 F. Supp. 3d at 137. “The principal public equity weighing in favor of issuance of preliminary injunctive relief is the public interest in effective enforcement of the antitrust laws.” *Heinz*, 246 F.3d at 726. Absent such relief, it would be extremely difficult, if not impossible, for the Commission to restore lost competition if it ultimately finds the Acquisition unlawful. *See Staples 2016*, 190 F. Supp. 3d at 137 (“[I]t is ‘impossible to recreate pre-merger competition’ if the parties are allowed to merge pending the administrative hearing.”) (quoting *Sysco*, 113 F. Supp. 3d at 87). Thus, if the Commission shows a likelihood of success on the merits, the equities necessarily favor a temporary restraining order and preliminary injunction to prevent Defendants from consummating the Acquisition before the administrative proceeding. “No court has

denied relief to the FTC in a [Section] 13(b) proceeding in which the FTC has demonstrated a likelihood of success on the merits.” *ProMedica*, 2011 WL 1219281, at *60.

I. THE COMMISSION HAS DEMONSTRATED A LIKELIHOOD OF SUCCESS ON THE MERITS.

Section 7 of the Clayton Act prohibits mergers or acquisitions “the effect of [which] may be substantially to lessen competition, or to tend to create a monopoly” in “any line of commerce or . . . activity affecting commerce in any section of the country.” 15 U.S.C. § 18. “Congress used the words ‘may be substantially to lessen competition’ . . . to indicate that its concern was with probabilities, not certainties.” *Heinz*, 246 F.3d at 713 (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 323 (1962)). As a result, “certainty, even a high probability, need not be shown.” *Elders Grain*, 868 F.2d at 906. Instead, an acquisition violates Section 7 if it “create[s] an appreciable danger of [anticompetitive consequences] in the future. A predictive judgment, necessarily probabilistic and judgmental rather than demonstrable, is called for.” *Heinz*, 246 F.3d at 719 (quotation omitted). Where uncertainty exists as to the likelihood of harm, “doubts are to be resolved against the transaction.” *Elders Grain*, 868 F.2d at 906; *see Brown Shoe*, 370 U.S. at 323.

Courts often analyze whether an acquisition creates a danger of anticompetitive consequences by determining “(1) the ‘line of commerce’ or product market in which to assess the transaction, (2) the ‘section of the country’ or geographic market in which to assess the transaction, and (3) the transaction’s probable effect on competition in the product and geographic markets.” *FTC v. Staples, Inc.*, 970 F. Supp. 1066, 1072 (D.D.C. 1997) (*Staples 1997*). The FTC may show “‘undue concentration in the market for a particular product in a particular geographic area.’” *CCC Holdings*, 605 F. Supp. 2d at 36 (quoting *United States v. Baker Hughes Inc.*, 908 F.2d 981, 982 (D.C. Cir. 1990)); *see also Staples 2016*, 190 F. Supp. 3d at 115; *Sysco*, 113 F. Supp. 3d at 23. Such a showing “entitles the government to a presumption that the merger will substantially lessen competition.” *Staples 2016*, 190 F. Supp. 3d at 115. The burden of rebutting that presumption then shifts to

transitory increase in price” (“SSNIP”)—typically five percent—over those products, or whether customers switching to alternative products or to product outside the geographic market would render such a price increase unprofitable. *Merger Guidelines* §§ 4.1.1, 4.1.2; *see also CCC Holdings*, 605 F. Supp. 2d at 38 n.12.²⁹ Applied to the facts here, this “hypothetical monopolist test” asks whether a single firm controlling all sales of chloride TiO₂ to North American customers could profitably raise prices by five to ten percent. As the record evidence from the merits trial shows, the answer is a resounding yes.

a. The Relevant Product Market Is Chloride TiO₂.

The relevant product market refers to the “‘product and services with which the defendants’ products compete.’” *United States v. Anthem, Inc.*, 236 F. Supp. 3d 171, 193 (D.D.C. 2017) (citation omitted), *aff’d*, 855 F.3d 345 (D.C. Cir. 2017). To determine the scope of the product market, courts examine “[w]hether goods are ‘reasonable substitutes,’” which “depends on two factors: functional interchangeability and cross-elasticity of demand.” *Sysco*, 113 F. 3d at 25. Therefore, “‘a relevant market cannot meaningfully encompass [an] infinite range [of products]. The circle must be drawn narrowly to exclude any other product to which, within reasonable variations in price, only a limited number of buyers will turn.’” *Id.* at 26 (quoting *Times-Picayune Publ’g Co. v. United States*, 345 U.S. 594, 612 n.31 (1953)) (modifications in original).

North American customers uniformly testified at trial that sulfate TiO₂ is not an effective substitute for chloride TiO₂. Those customers, including virtually all of the largest customers, use chloride TiO₂ because of its distinct performance advantages over sulfate TiO₂, including its brighter

²⁹ Courts frequently use the hypothetical monopolist test in defining markets. *FTC v. Penn State Hershey Med. Ctr.*, 838 F.3d 327, 338 (3d Cir. 2016); *Staples 2016*, 190 F. Supp. 3d at 121-22; *Sysco*, 113 F. Supp. 3d at 33.

tint and superior coverage and durability.³⁰ These attributes are particularly important to North American end consumers, who expect high quality, durable coatings with clean, bright colors.³¹

Sherwin-Williams, which manufactures both architectural and industrial coatings, testified at trial that sulfate TiO₂ is unsuitable in North America because it does not result in consistent brightness of color or consistent whites, and that Sherwin-Williams has been “unwilling to compromise the quality of [its] goods” by using sulfate TiO₂.³² [REDACTED]

[REDACTED] and Masco testified that chloride TiO₂ is required to achieve the bright, crisp colors in its Behr paints.³⁴

Customers have investigated whether they could substitute sulfate TiO₂ for chloride TiO₂, and found that they could not. [REDACTED]

[REDACTED].³⁶ Plastics manufacturer Deceuninck North America (“DNA”) testified that it has always used

³⁰ *E.g.*, Trial Tr. at 274:17-275:1 (Malichky, PPG); [REDACTED] *see also* Trial Tr. at 778:23-779:18 (Christian, Kronos) (“overwhelming preference” for chloride TiO₂ in North America).

³¹ [REDACTED] Trial Tr. at 779:21-780:22 (Christian, Kronos); Trial Tr. at 182:24-183:6 (Vanderpool, True Value) (testifying at trial that chloride TiO₂ is “purer” than sulfate TiO₂, which is “dirtier” and has a yellow tint); *see also* [REDACTED] Trial Tr. at 773:23-774:9 (Christian, Kronos) (sulfate TiO₂ produces a yellowish undertone compared to chloride TiO₂, which has “a brighter white to it”).

³² Trial Tr. at 642:22-643:10 (Young, Sherwin-Williams). Sherwin-Williams further explained that in other regions of the world, where quality standards are different than in North America, sulfate TiO₂ has been suitable for use in its products. *Id.*

³³ [REDACTED]
³⁴ Trial Tr. at 971:7-16, 972:16-24, 973:16-20, [REDACTED] (Pschaidt, Masco).

³⁵ [REDACTED]
³⁶ [REDACTED]

exclusively chloride TiO₂ because purity and quality are of paramount importance in DNA's products.³⁷

Additionally, unlike in other parts of the world, the vast majority of the architectural paint sold in North America is tinted (*i.e.*, mixed into a specific color) at the point of sale.³⁸ Sulfate TiO₂ cannot be used in these paints because point-of-sale tinting requires a consistent color base that only chloride TiO₂ can provide.³⁹

Furthermore, many of the major North American coatings customers rely on TiO₂ in slurry (liquid) form, as opposed to dry TiO₂, because it lowers costs.⁴⁰ Only chloride TiO₂ is available in slurry form in North America, [REDACTED]

[REDACTED]

[REDACTED] *id.* at 187:2-5. [REDACTED]

³⁷ Trial Tr. at 1065:5-23 (Arrowood, Deceuninck).

³⁸ See PX7020 at 48:2-19 (Sherwin-Williams) (“Typically in Europe colors are premade in the manufacturing environment so you have the ability to overcome variation in color by adjusting in the plant. In the North America[n] market, all the paint companies tint at point of sale”); *id.* at 134:3-5 (by contrast, there are “a lot of prepackaged colors in South America.”).

³⁹ PX7020 at 47:22-49:3 (Sherwin-Williams) (explaining that point-of-sale tinting requires chloride TiO₂ in order “to achieve the color palette reliably that the customers expect, it has to be a bright white, a clean white product.”); Trial Tr. at 643:24-645:12, 645:24-646:23 (Young, Sherwin-Williams) (describing tinting and explaining that Sherwin-Williams has been unable to get consistent results with sulfate TiO₂); [REDACTED]

⁴⁰ *E.g.*, Trial Tr. at 648:21-650:1 (Young, Sherwin-Williams); [REDACTED]

⁴¹ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] To switch to sulfate TiO₂, even for limited quantities and product lines, North American customers currently purchasing chloride TiO₂ would need to reformulate their product lines and complete extensive testing to qualify the sulfate TiO₂, a process that would be costly and could take several years to complete.⁴⁵

That chloride TiO₂ and sulfate TiO₂ are not close substitutes in North America is demonstrated by North American customers' consistent reliance on chloride TiO₂, despite paying a premium for it. On average, chloride TiO₂ was [REDACTED] more expensive than sulfate TiO₂ in North America from 2012 to 2017.⁴⁶ Despite this, the dominance of chloride TiO₂ in North America has persisted, with chloride TiO₂ accounting for around [REDACTED] of sales in North America throughout this period.⁴⁷ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁴² [REDACTED] Trial Tr. at 650:11-651:7; [REDACTED]

⁴⁵ See, e.g., Trial Tr. at 652:11-653:6 (Young, Sherwin-Williams); PX7044 at 128:9-16 (True Value) (“[I]t’s significantly more difficult, if even possible, to substitute a sulfate for a chloride.”).

⁴⁶ [REDACTED] see also, e.g., Trial Tr. at 647:17-648:5 (Young, Sherwin-Williams) (chloride TiO₂ has typically been more expensive than sulfate TiO₂ over the past six years, with sulfate TiO₂ as much as 40% cheaper.).

[REDACTED]

[REDACTED]

Tronox itself acknowledges the advantages of chloride TiO₂, the dominance of chloride TiO₂ in the North American market, and that sulfate TiO₂ is not a close substitute for chloride TiO₂ in North America. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Indeed, during a call with investors, Tronox's then-CEO rejected the idea that high chloride TiO₂ prices had caused customers to switch to sulfate TiO₂ in North America, observing that "95% or 98% or some very, very high number [is] chloride" in the "North American market," and "[t]hat was true when [chloride] prices were over \$4,000 per ton," substantially higher than sulfate

[REDACTED] Sherwin-Williams has been willing to pay more for chloride TiO₂ "[i]n order to consistently meet [its] customers' requirements for quality and performance." *Id.* at 648:6-18.

[REDACTED]

⁵³ [REDACTED] *see also* PX9119 at 009 (Tronox) (stating during an investor call that major North American TiO₂ customers' "ability to substitute sulfate for chloride . . . is limited by their need to maintain the quality levels of their own products.").

prices at that time.⁵⁴ The other major producers likewise recognize the important differences between chloride and sulfate TiO₂, and that customers in North America would not substitute between them in most applications.⁵⁵

b. The Relevant Geographic Market Is North America.

Under the Clayton Act, a relevant geographic market is the area to which customers “can practically turn for alternative sources of the product and in which the antitrust defendants face competition.” *FTC v. Cardinal Health, Inc.*, 12 F. Supp. 2d 34, 49 (D.D.C. 1998) (citation omitted). Where, as here, suppliers set prices based on customer locations, and customers cannot avoid targeted price increases through arbitrage, the relevant geographic market may be defined around the locations of customers, not suppliers. *See In re Polypore Int’l Inc.*, 150 FTC 586 at *16 (2010), *aff’d sub nom.*, *Polypore Int’l, Inc. v. FTC*, 686 F.3d 1208 (11th Cir. 2012) (applying *Merger Guidelines* § 4.2.2). This is because, where “customers cannot avoid targeted price increases through arbitrage, suppliers may be able to exercise market power over customers located in a particular geographic region, even if a price increase to customers located in other geographic regions would be unprofitable.” *Id.*

Here, the relevant geographic market is defined around the locations of chloride TiO₂ customers in North America.⁵⁶ *See Merger Guidelines* § 4.2.2. This geographic market includes *all*

⁵⁴ PX9012 at 008 (Tronox). At trial, Tronox’s Vice President of Investor Relations testified that statements to investors are made on behalf of Tronox as a whole and that the company uses its best efforts to ensure that its statements to investors are accurate, complete, and not misleading. Trial Tr. 1359:4-22 (Arndt, Tronox).

⁵⁵ Trial Tr. at 778:23-779:18, 897:4-19 (Christian, Kronos) (explaining that North American customers have an “overwhelming preference” for chloride TiO₂ because it is needed to achieve the necessary product quality); [REDACTED]

⁵⁶ Plaintiff defines North America as the United States and Canada. Market participants typically include Mexico in the Latin American market, in part because TiO₂ prices and purchasing decisions there are more similar to those in other Latin American countries than in the United States and Canada. *See, e.g.*, [REDACTED]

[REDACTED] *See also* Trial Tr. 1713:3-17 (Hill); [REDACTED]

sales of chloride TiO₂ in North America, regardless of country of origin or supplier and, by definition, includes the 3% of North America TiO₂ sales that consist of chloride TiO₂ imported from abroad.⁵⁷ The evidence shows that TiO₂ producers price regionally (*i.e.*, price discriminate), on a delivered basis,⁵⁸ and a SSNIP by a hypothetical monopolist controlling all sales of chloride TiO₂ to North American customers would not be defeated by those customers turning outside of North America to purchase chloride TiO₂.⁵⁹ Although Defendants will point to global trade flows as evidence of a global chloride TiO₂ market, the existence of such trade flows does not establish a global antitrust market. As discussed below, the significant and persistent gaps in price between North America and other regions demonstrate that neither global trade flows nor arbitrage significantly disciplines pricing to North American customers.

Chloride TiO₂ suppliers charge different prices in different regions and these differences persist over time—a fact that industry participants broadly acknowledge. Ian Mouland, Tronox’s vice president of sales for the Americas, testified at trial [REDACTED]

[REDACTED].⁶⁰ Likewise, in the price-fixing litigation, [REDACTED]

⁵⁷ See Trial Tr. at 1725:19-1726:7 (Hill); [REDACTED]

⁵⁸ [REDACTED]

⁵⁹ Trial Tr. at 1713:25-1715:2, 1725:19-1726:18 (Hill).

⁶⁰ [REDACTED] *see also id.* at [REDACTED]

⁶¹ [REDACTED]

Prices continue to vary by region.⁶² [REDACTED]

[REDACTED]

[REDACTED] Many documents from both Tronox and Cristal corroborate this testimony,⁶⁵ as do Tronox's public statements. For example, in an earnings call, Tronox's CEO remarked, "[A]re there different prices in the regional markets in which we do business? The answer to that question is yes."⁶⁶

Customers and other producers share Defendants' view regarding the regional nature of TiO2 markets. [REDACTED]

62

E.g., [REDACTED]

see also [REDACTED]

see also [REDACTED]

65

⁶⁶ PX9008 at 008 (Tronox Q4 2014 Earnings Call); *see also, e.g.*, PX9006 at 006 (Tronox Q2 2015 Earnings Call) (Tronox noted that it did "not see that exports from China or from Europe are playing a material role in the competitive balance, particularly in the North American market.").

[REDACTED]

Although regional prices vary relative to one another, over at least a five-year period, TiO₂ prices in North America remained significantly higher than those elsewhere in the world.⁶⁹ In 2013, Cristal reported that North American TiO₂ prices are “much higher than the other regions of the world.”⁷⁰ [REDACTED]

[REDACTED]

⁶⁷ [REDACTED]

⁶⁸ [REDACTED] Trial Tr. at 779:19-780:22; 781:16-782:8 (Christian, Kronos).

⁶⁹ [REDACTED]

⁷⁰ PX2030 at 003 (Cristal April 2013 email).

⁷³ [REDACTED]

This persistent regional pricing gap shows that customers have not engaged in arbitrage to defeat higher prices in North America by buying TiO₂ in a lower-priced region and transporting it to North America.⁷⁴ [REDACTED]

Courts frequently use the hypothetical monopolist test in defining markets. *FTC v. Penn State Hershey Med. Ctr.*, 838 F.3d 327, 338 (3d Cir. 2016); *Staples 2016*, 190 F. Supp. 3d at 121-22; *Sysco*, 113 F. Supp. 3d at 33. Consistent with the record described above, Plaintiff's economic expert, Dr. Nicholas Hill, conducted an empirical analysis and found that a hypothetical monopolist of all chloride TiO₂ sales to customers in North America would find it profitable to impose a SSNIP. This analysis,

[REDACTED] PX7015 at 164:7-14, 217:13-23 (Venator); [REDACTED]

⁷⁴ [REDACTED]
There is also no evidence that North American customers purchase chloride TiO₂ indirectly from or through other customers to exploit regional price differences. Trial Tr. at 3567:9-16) (Shehadeh).

⁷⁵ See [REDACTED]

⁷⁶ [REDACTED]; see also [REDACTED]

⁷⁷ [REDACTED]

combined with documents and testimony, confirms that the sale of chloride TiO₂ to North American customers is a properly defined relevant market.⁷⁸

2. The Proposed Acquisition Is Presumptively Unlawful Because It Would Substantially Increase Concentration in the Relevant Market.

Congress enacted the Clayton Act so that courts could prevent undue economic concentration *before* a dominant firm could use its market power to harm customers. *Brown Shoe*, 370 U.S. at 317–18; *see Phila. Nat’l Bank*, 374 U.S. at 363. In accordance with that statutory directive, courts have made clear that acquisitions that significantly increase economic concentration are presumptively unlawful:

[T]he government must show that the merger would produce ‘a firm controlling an undue percentage share of the relevant market, and [would] result[] in a significant increase in the concentration of firms in that market.’ Such a showing establishes a ‘presumption’ that the merger will substantially lessen competition.

Heinz, 246 F.3d at 715 (citations omitted).

To assess an acquisition’s presumptive illegality, courts first consider Defendants’ shares of the relevant market, and then employ a statistical measure of market concentration called the Herfindahl-Hirschman Index (“HHI”). *Heinz*, 246 F.3d at 716; *Sysco*, 113 F. Supp. 3d at 52. The HHI calculates market concentration by adding the squares of each market participant’s individual market share. *See Staples 2016*, 190 F. Supp. 3d at 128; *Sysco*, 113 F. Supp. 3d at 52. “Sufficiently large HHI figures establish the FTC’s prima facie case that a merger is anti-competitive.” *Heinz*, 246 F.3d at 716; *see Staples 2016*, 190 F. Supp. 3d at 128; *Sysco*, 113 F. Supp. 3d at 52.

An acquisition is presumptively anticompetitive if it increases the HHI by more than 200 points and results in a “highly concentrated market” with a post-acquisition HHI exceeding 2,500. *See Staples 2016*, 190 F. Supp. 3d at 128; *Sysco*, 113 F. Supp. 3d at 52-53; *see also Merger Guidelines* § 5.3. This

⁷⁸ [REDACTED] Trial Tr. at 1692:14-1694:18, 1695:6-1696:10, 1725:19-1726:18 (Dr. Hill). TiO₂ has two distinct crystal forms, rutile and anatase. It is undisputed that anatase TiO₂ is used in different products than rutile TiO₂ and is not at issue in this case.

Acquisition would *triple* the increase that renders an acquisition presumptively unlawful. Post-Merger, the combined firm would have a North American market share of [REDACTED] of North American sales of chloride TiO₂, and the Acquisition would increase the HHI by over 700 points, to a level of over 3000.⁷⁹

These market share statistics demonstrate this Acquisition is presumptively anticompetitive. *See Staples 2016*, 190 F. Supp. 3d at 128; *Sysco*, 113 F. Supp. 3d at 52-53; *United States v. Aetna Inc.*, 240 F. Supp. 3d 1, 42-43 (D.D.C. 2017). “The presumption can only be rebutted by persuasive evidence showing that the merger is unlikely to enhance market power.” *Merger Guidelines* § 5.3. Courts consistently enjoin transactions with high changes in concentration, like this Acquisition. *E.g.*, *Heinz*, 246 F.3d at 716 (HHI increase of 510 “creates, by a wide margin, a presumption that the merger will lessen competition.”).

3. The Documented History of Coordination in the TiO₂ Industry Strengthens the Presumption.

The reason that Section 7 of the Clayton Act presumes a significant increase in concentration to be unlawful is that merger law “rests upon the theory that, where rivals are few, firms will be able to coordinate their behavior, either by overt collusion or implicit understanding, in order to restrict output and achieve profits above competitive levels.” *Heinz*, 246 F.3d at 715 (internal quotation marks omitted). Coordination includes conduct ranging from outright collusion, to tacit coordination, to “parallel accommodating conduct,” which “includes situations in which each rival’s response to competitive moves made by others is individually rational . . . but nevertheless emboldens price increases and weakens competitive incentives to reduce prices.” *Merger Guidelines*, § 7.0. As explained by the D.C. Circuit, “[t]acit coordination ‘is feared by antitrust policy even more than

⁷⁹ [REDACTED] Even in a broader market of all rutile TiO₂ sales to customers in North America, the transaction is still presumptively anticompetitive, as it would increase the HHI by more than 550 and result in a highly concentrated market with an HHI of 2,5 [REDACTED]

express collusion, for tacit coordination, even when observed, cannot easily be controlled directly by the antitrust laws. *It is a central object of merger policy to obstruct the creation or reinforcement by merger of such oligopolistic market structures in which tacit coordination can occur.*” *Heinz*, 246 F.3d at 725 (emphasis added) (quoting 4 Phillip E. Areeda, Herbert Hovenkamp & John L. Solow, *Antitrust Law* ¶ 901b2, at 9 (rev. ed. 1998)).

The conclusions that the courts have drawn in the two previous TiO₂ price fixing cases confirm the strong presumption that this Merger will increase the likelihood of coordination. The alleged conspirators in those cases were the five producers of TiO₂ in North America: Chemours (formerly DuPont), Tronox, Cristal USA, Kronos, and Venator (formerly Huntsman).⁸⁰ In *Valspar*, the U.S. Court of Appeals for the Third Circuit did not find overt price fixing by TiO₂ producers, but highlighted the oligopolistic market conditions that underpin Complaint Counsel’s concern that this Acquisition will result in reduced competition: “There is no dispute that the market was primed for anticompetitive interdependence and that it operated in that manner. Valspar’s expert evidence confirming these facts mastered the obvious.” 873 F.3d at 197. In *In re Titanium Dioxide*, the District Court concluded that the plaintiffs had provided enough evidence to support their allegations of a TiO₂ price fixing conspiracy:

Having carefully considered the sheer number of parallel price increase announcements, the structure of the titanium dioxide industry, the industry crisis in the decade before the Class Period, the Defendants’ alleged acts against their self-interest, and the myriad non-economic evidence implying a conspiracy, this Court finds that the Plaintiffs put forward sufficient evidence tending to exclude the possibility of independent action.

959 F. Supp. 2d at 830.

This well-documented history of coordination described by the courts builds on the inferences to be drawn from the market share statistics, and demonstrates that the competitive concerns in this case are particularly strong. Indeed, as the Seventh Circuit observed: “The theory of competition and

⁸⁰ *In re Titanium Dioxide Antitrust Litig.*, 959 F. Supp. 2d at 802 & n.2.

monopoly that has been used to give concrete meaning to section 7 teaches that an acquisition which reduces the number of significant sellers in a market already highly concentrated and prone to collusion by reason of its history and circumstances is unlawful *in the absence of special circumstances.*” *Elders Grain*, 868 F. 2d. at 906 (emphasis added).

4. Evidence of Likely Harm Bolsters the Presumption.

Instead of the “special circumstances” required by *Elders Grain*, there is extensive evidence that the Acquisition would likely result in harm to competition by making coordination between the remaining competitors—Chemours, Kronos and Venator—more likely, and by increasing Tronox’s ability and incentive to unilaterally curtail output in order to raise prices or prevent them from falling.⁸¹ This “additional proof that the merger would harm competition” further strengthens the presumption, thus increasing the burden Defendants must shoulder on rebuttal. *Sysco*, 113 F. Supp. 3d at 71-72; *see id.* at 72 (“The more compelling the [FTC’s] *prima facie* case, the more evidence the defendant must present to rebut [the presumption] successfully.”) (quoting *Baker Hughes*, 908 F.2d at 991).

In this case, there is direct evidence that the Merger is likely to lead to anticompetitive effects. The Court need not guess whether Tronox intends to raise prices after the Merger: Tronox has explicitly stated that it intends to do so. At trial, PPG, one of Tronox and Cristal’s largest customers, testified that Tronox Chief Commercial Officer John Romano and Ian Mouland told him that Tronox would raise prices post-Merger.⁸² The Tronox executives explained that [REDACTED] and that Cristal lacks market discipline.⁸³ That testimony was unrebutted at trial, even though both Tronox executives testified as live witnesses. Consistent with Tronox’s statements to PPG, Mr. Mouland previously wrote in an internal Tronox email that he was [REDACTED]

⁸¹ *See Staples 1997*, 970 F. Supp. at 1082-83 n.14 (“[W]hen the Court discusses ‘raising’ prices it is also with respect to raising prices with respect to where prices would have been absent the merger, not actually an increase from present price levels.”).

⁸² Trial Tr. at 280:19-281:1 (Malichky, PPG).

⁸³ Trial Tr. at [REDACTED] (Malichky, PPG); *see id.* at 281:2-16.

[REDACTED]

Finally, other TiO2 market participants have similarly acknowledged the Acquisition's likely effects on competition. Producers note that the Merger will contribute to [REDACTED] and "continued capacity constraints."⁸⁶ Customers, meanwhile, have testified at trial and in depositions regarding their well-founded fears that the Merger will weaken competition and lead to higher prices, output reduction, or both.⁸⁷ This evidence, as well as the extensive evidence described below, both strengthens the presumption that the Acquisition will lead to anticompetitive effects and serves as direct evidence of likely effects.

a. The Proposed Acquisition Would Increase the Likelihood of Coordination in an Already Vulnerable Market.

The Merger would increase the likelihood of coordination in an already vulnerable market by removing a significant competitor, by increasing transparency, and by replacing a firm that has aggressively competed in the past with a firm committed to market discipline. "[T]he market for

⁸⁶ PX3011 at 038 (Kronos investor presentation).

⁸⁷ *See, e.g.*, [REDACTED]

[REDACTED] & PX7027 at 78:5-79:6 (Masco) (stating that the Merger would reduce Masco's leverage to negotiate on price, resulting in "a tendency for prices to stay at elevated levels" and/or further price increases, especially for chloride slurry TiO2); [REDACTED]

[REDACTED] PX7003 at 40:01-08 (RPM) (articulating concern that the Merger would lead to output reduction); PX7016 at 127:16-23 (RPM) (stating that "fewer suppliers, it's not good for buyers"); PX7049 at 73:5-74:5, [REDACTED]

titanium dioxide is an oligopoly. Titanium dioxide is a commodity-like product with no substitutes, the market is dominated by a handful of firms, and there are substantial barriers to entry.” *Valspar*, 873 F.3d at 190. By removing Cristal as an independent competitor, the Acquisition would leave Tronox and Chemours in control of [REDACTED] of North American sales, and over [REDACTED] of North American capacity, thereby increasing the likelihood of coordination. “With only two dominant firms left in the market, the incentives to preserve market shares would be even greater, and the costs of price cutting riskier, as an attempt by either firm to undercut the other may result in a debilitating race to the bottom.” *CCC Holdings*, 605 F. Supp. 2d at 67.⁸⁸

Under the *Merger Guidelines*, a market is more vulnerable to coordination where: 1) there are only a small number of competing suppliers; 2) the products are relatively homogenous; 3) price elasticity of demand is low; 4) there is a past history of actual or attempted coordination among the firms; 5) the market is transparent enough for firms to monitor their competitors’ behaviors; and/or 6) firms are aware of their mutual interdependence. *See Merger Guidelines* § 7.2. Here, there is no question that this market is vulnerable to coordination, whether by express collusion, tacit collusion, or parallel accommodating conduct. The Third Circuit observed as much in *Valspar*: “There is little doubt that this highly concentrated market for a commodity-like product with no viable substitutes and substantial barriers to entry was conducive to price fixing.” 873 F.3d at 197. There are only five meaningful competitors in the North American market for chloride TiO₂. The product, chloride TiO₂, is relatively homogenous; [REDACTED]

[REDACTED] And there is a well-documented past history of actual or

⁸⁸ *See also Hospital Corp. of Am. v. FTC*, 807 F.2d 1381, 1387 (7th Cir. 1986) (“The fewer competitors there are in a market, the easier it is for them to coordinate their pricing without committing detectable violations of section 1 of the Sherman Act, which forbids price fixing.”).

⁸⁹ [REDACTED] As discussed in Section I.B.1 *infra*, however, chloride TiO₂ from Chinese manufacturers is lower quality than the chloride TiO₂ produced by North American manufacturers.

⁹⁰ [REDACTED]

attempted collusion. As the trial record shows, the remaining factors—transparency and interdependence—permeate the documents and testimony of Defendants.

Transparency heightens the opportunities for coordination, and here, the major producers’ pricing and supply decisions are easily observed by their competitors. *See CCC Holdings*, 605 F. Supp. 2d at 62, 65. [REDACTED]

[REDACTED] By announcing intentions to raise price, the industry can reach a consensus on a new, often higher price level. In December 2015, Chemours announced a price increase of \$150/MT. [REDACTED]

[REDACTED] the price increase spread to Cristal and Venator within a day.⁹³

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] This example illustrates how pricing transparency allows the producers to coordinate price increase attempts. [REDACTED], the success of those attempts is determined by the competitive response, or lack thereof, of the few other competitors.

More generally, through public statements in earnings calls, investor presentations, industry conferences, meetings with ratings agencies, and other public forums, TiO2 producers are able obtain key competitive information about the pricing, inventories, and production levels of their competitors,

91 [REDACTED]

92 [REDACTED]
93 PX2035 at 001-002 (Cristal).

94 [REDACTED] *Id.* And Cristal similarly understood the price increase announcement as “an initiative to taste the market readiness to accept this announced increase.” PX2035 at 002 (Cristal).

all of which lays the groundwork for successful coordination.⁹⁵ In one earnings call, Tronox was able to convey to its competitors that it was reducing inventory levels and cutting production, all in the service of raising prices:

[W]hen will [prices] turn? We're addressing that by managing our production, so that inventories get reduced to normal or below normal levels. And when that happens, prices will rise. We -- from what we see with Chemours and Huntsman and presumably the others as well, they're doing the same thing. We see them acting in the same way.⁹⁶

Shortly after Tronox's Q2 2015 earnings call detailing its decision to idle capacity at its North American chloride TiO₂ plant,⁹⁷ Chemours announced its own decision to curtail chloride TiO₂ production. In response to that news, Tronox's then-CEO exclaimed: "It's good that they can follow the leader!"⁹⁸ In addition, Tronox and Cristal are adept at gathering information from customers and other sources about the actions of their competitors.⁹⁹

⁹⁵ See, e.g., Trial Tr. 2482:5-11 (Engle, Tronox) ("So the biggest source [for competitive intelligence] would be trade data and public filings or public announcements, investor presentations, things like that."); PX1054 at 001-004 (Tronox) (Tronox email highlighting portions of Huntsman earnings call discussing, among other things, Huntsman's specific TiO₂ inventory levels, capacity utilization figures, and TiO₂ pricing).

⁹⁶ PX9005 at 010 (Tronox Q3 2015 Earnings Call).

⁹⁷ Tronox provided extraordinarily detailed information to the public, and therefore competitors, about its output: "Production has been suspended at one of our six processing lines in Hamilton and one of our four processing lines at Kwinana, both of which are pigment plants. Together, these processing line curtailments represent approximately 15% of total pigment production." PX9006 at 003 (Tronox Q2 2015 Earnings Call).

⁹⁸ PX1325 at 001 (Tronox).

⁹⁹ For example,

[REDACTED]

The Acquisition will increase transparency in the market. It will reduce the number of firms that market participants need to track. And it will eliminate Cristal, the only major producer that is not a publicly traded company. As explained above, public engagement with investors—by design—increases visibility into the strategies and actions of the other major producers.¹⁰⁰ The Acquisition would result in Tronox making public disclosures about Cristal’s competitive activities that Cristal does not make today.

Not only is the market transparent—as described by the *Valspar* court, and as Defendants recognize, the market also is characterized by interdependence among the major producers:

DuPont does not claim that the competitors’ numerous parallel price increases were discrete events – nor could it do so with a straight face. But it doesn’t need to. The theory of interdependence recognizes that price movement in an oligopoly will be just that: *interdependent*. And that phenomenon frequently will lead to successive price increases, because oligopolists may “conclude that the industry as a whole would be better off by raising prices.”

Valspar, 873 F.3d at 195 (citation omitted).¹⁰¹

Consistent with the Third Circuit’s observations, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

¹⁰⁰ Courts have viewed earnings calls to be an industry practice that can facilitate coordination: “Plaintiffs need not allege the existence of collusive communications in ‘smoke-filled rooms’ in order to state a § 1 Sherman Act claim. Rather, such collusive communications can be based upon circumstantial evidence and can occur in speeches at industry conferences, announcements of future prices, statements on earnings calls, and in other public ways.” *In re Delta/AirTran Baggage Fee Antitrust Litig.*, 733 F. Supp. 2d 1348, 1360 (N.D. Ga. 2010).

¹⁰¹ *See also, e.g.*, Trial Tr. 975:5-22 (Masco, Pschaidt) (“Usually the TiO2 manufacturers announce price increases very close to each other,” and “usually the amounts of these increases are very close to each other.”); Trial Tr. 1091:2-1092:3 (Arrowood, Deceuninck) (“Usually, when a supplier, TiO2 supplier, announces a price increase, within a matter of just a few days the other suppliers will also announce a price increase,” typically for “very similar” amounts).

¹⁰² [REDACTED]

[REDACTED]

Consistent with its overall emphasis on *not* growing share, at every turn Tronox opts not to undercut competitors, even where it has product available to sell to its customers.

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

Tronox’s former CEO plainly (and publicly) summarized their approach: “As you saw, we have not gained market share by trying to reduce price. We don’t think that’s the appropriate strategy going forward”¹⁰⁹ And Tronox has publicly recognized collective actions taken with its competitors to reduce output and maintain prices:

I can tell you that . . . last year, Huntsman [now Venator], . . . Cristal, Chemours, and we all lowered our plant utilization rates. And we all talked about declining inventories which we had set as a goal. That is that we wanted to reduce inventories. Clearly, the way that one reduces inventories is one reduced production and continues to maintain sales, which is what we have all tried to do.¹¹⁰

[REDACTED]

¹⁰⁹ PX9010 at 005 (Tronox Q2 2014 Earnings Call).

¹¹⁰ PX9003 at 008 (Q1 2016 Tronox Earnings Call).

Cristal has often shared Tronox’s approach toward oligopolistic pricing, explaining in 2011, as demand in North American began to weaken, that “[t]he ‘*Evil Sin*’ would be to attempt to lower prices to take market share as markets weaken. *We Must Hold Price!*”¹¹¹ Not long afterwards, Cristal applauded how “[a]ll of the large global TiO2 suppliers are still acting in a disciplined manner, respecting each other’s market positions and share and holding on to price.”¹¹²

But Cristal also has at times competed and caused disruption, forcing Tronox to respond. [REDACTED]

[REDACTED]
[REDACTED] Those efforts were not lost on rivals, [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] Indeed, there are many examples of customers benefitting from Cristal competing aggressively in North America.¹¹⁶ And Cristal has previously had a detrimental effect on Tronox’s efforts to instill discipline in the market and avoid cutting prices for customers:

¹¹¹ PX2242 at 017 (Cristal) (emphasis in original).

¹¹² PX2028 at 002 (Cristal).

¹¹³ [REDACTED]

¹¹⁵ [REDACTED]

¹¹⁶ *See, e.g.,* [REDACTED]

[REDACTED] Customers benefit from Cristal’s presence in North America in other ways as well. For example, plastics manufacturer Deceuninck currently sole-sources TiO2 from Tronox, but is in the process of qualifying Cristal in an effort to protect itself in the event that Tronox has supply problems. Trial Tr. 1069:8-1071:2 (Arrowood, Decueninck). Decueninck testified that Kronos, Venator, and Chemours will not send quotes to Deceuninck, and that Kronos and Venator have said that they have no TiO2 available. *Id.* at 1085:17-1086:8.

Similarly, Tronox's Ian Mouland testified at trial that [REDACTED]

Removing Cristal as a competitor will eliminate opportunities for it to compete aggressively and to disrupt Tronox's strategy of pricing discipline and avoiding driving down price. Fundamentally, Tronox has adopted a strategy that is consistent with facilitating coordination among its rivals. The Acquisition would place even more capacity under its purview and eliminate a rival that, at times, has refused to cooperate. And it would eliminate a competitor for whom customers "might turn for succor if the other sellers tried to jack prices above the competitive level." *Elders Grain*, 868 F.2d at 907.

b. The Merger Would Increase Tronox's Incentive and Ability to Reduce Output Unilaterally.

In addition to increasing the likelihood of coordination, the Merger will increase Tronox's incentive and ability to reduce its TiO₂ output.¹¹⁹ Tronox already has a history of curtailing North American production and taking capacity offline to support higher North American chloride TiO₂ pricing. As discussed below, the Acquisition will increase Tronox's incentive to engage in this unilateral output suppression and its ability to do so, both by giving Tronox more capacity to manage,

¹¹⁷ [REDACTED] *see also* Trial Tr. [REDACTED], 281:2-16 (Malichky, PPG) [REDACTED]

¹¹⁸ [REDACTED]

¹¹⁹ *Merger Guidelines* §6.3 (recognizing that a merged firm may "find it profitable unilaterally to suppress output and elevate the market price. A firm may leave capacity idle, refrain from building or obtaining capacity that would have been obtained absent the merger, or eliminate preexisting production capabilities."); *see also United States v. Rockford Mem'l Corp.*, 717 F. Supp. 1251, 1279 (N.D. Ill. 1989), *aff'd*, 898 F.2d 1278 (7th Cir. 1990) ("[A] firm with a large market share with few competitors of any significance (i.e. large market shares), will exercise market power by . . . reducing or restricting output The dominant firm can exercise market power because it controls such a large segment of the market. Other firms cannot muster enough output (capacity) to accommodate all the customers seeking to avoid the dominant firms' exercise of market power (*i.e.*, higher prices). Thus, these customers are forced to pay prices above competitive levels.").

and by eliminating an independent competitor (Cristal) that could undermine its efforts. *See Merger Guidelines* § 6.3 (“A merger may provide the merged firm a larger base of sales on which to benefit from the resulting price rise, or it may eliminate a competitor that otherwise could have expanded its output in response to the price rise.”).

Tronox’s history of reducing output to improve supply/demand dynamics and support higher pricing is well documented. In 2009, Tronox closed its chloride TiO₂ facility in Savannah, Georgia,

[REDACTED]

[REDACTED] Indeed, the closure of Tronox’s Savannah facility was part of a larger reduction in industry capacity that led to significant price increases over the next several years.¹²²

Since closing the Savannah plant, Tronox has at various times reduced production at its remaining TiO₂ plants, leading to higher prices. For example, [REDACTED]

[REDACTED]

In 2015, Tronox curtailed TiO₂ production, including at its Hamilton plant, in order to “balance the market.”¹²⁴ Tronox’s then-CEO told investors “that an upward move in pigment selling prices will be predicated on a reduction of supply in the pigment market relative to demand, and/or an upward move in feedstock selling prices and we expect to see both.”¹²⁵ He later explained that Tronox had

¹²⁰ [REDACTED]

¹²¹ [REDACTED]

[REDACTED] PX2083 at 001 (Cristal) (“The pricing momentum began when significant capacity was taken off line in 2008 and 2009 during the financial crisis.”).

¹²³ [REDACTED]

see [REDACTED]

¹²⁴ PX9003 at 011 (Tronox Q1 2016 Earnings Call).

¹²⁵ PX9007 at 005 (Tronox Q1 2015 Earnings Call).

taken steps to “manag[e] our production, so that inventories get reduced to normal or below normal levels[;] [a]nd when that happens, prices will rise.”¹²⁶

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Moreover, Tronox has made clear that its approach will not change with the merger. During an investor call following the deal announcement, Tronox’s then-CEO responded to a question about how the acquisition would affect Tronox’s approach to supply discipline and pricing:

I think we have tried to be economically rational over these last several years. If there was surplus supply in the market we slow[ed] down our production and we did that with respect to pigment. We also did it with respect to mineral sands. You remember over the last couple years that we shut down about 75,000 tons of pigment production when we felt that all we were doing was adding supply to inventory levels. And we shut down two of our four slag furnaces.¹²⁹

The other North American TiO₂ producers, including Cristal, have likewise recognized that reducing output leads to higher prices. [REDACTED]

[REDACTED]

¹²⁶ PX9005 at 010 (Tronox Q3 2015 Earnings Call).

[REDACTED] PX1130 at 003

(Tronox); PX1325 at 001 (Tronox).

¹²⁷ [REDACTED]

¹²⁸ *Id.*

¹²⁹ PX9000 at 012 (Tronox Q4 2016 Earnings Call).

¹³⁰ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] In a recent investor presentation, Kronos observed that industry “structural improvements” drove a \$250 million increase in EBITDA and that “baseline TiO2 capacity has been permanently reduced with limited near-term ability to increase capacity.”¹³² [REDACTED]

[REDACTED]

[REDACTED]

While the evidence shows that suppliers of TiO2 have found it profitable to withhold North American output in the past, by doubling its size, the Merger will increase Tronox’s incentives to do so.¹³⁴ Using two economic models, Dr. Hill showed that, under current market conditions, withholding output would be profitable for the merged firm, and that it would result in substantial customer harm.¹³⁵ He further concluded that, absent the Acquisition, neither Cristal nor Tronox would have a comparable incentive to withhold output today, meaning that the Merger is the source of the harm.¹³⁶

B. Defendants Cannot Rebut the Strong Presumption of Illegality.

With the presumption of illegality firmly established, the burden of production shifts to Defendants to rebut the presumption by “produc[ing] evidence that ‘show[s] that the market-share statistics [give] an inaccurate account of the [acquisition’s] probable effects on competition’ in the relevant market.” *Heinz*, 246 F.3d at 715. Here, Defendants carry a heavy burden given the strength of

¹³¹ [REDACTED]

¹³² PX3011 at 015, 038

[REDACTED] Chemours has also told its investors that it will “vary [its] production in line with customer demand” and operate “at lower levels of output when customer needs . . . warrant that we adjust our production.” PX9025 at 003 (Chemours).

¹³⁴ Trial Tr. at 1764:13-1769:20 (Hill).

¹³⁵ Trial Tr. at 1759:14-1760:13 (Hill); [REDACTED]

¹³⁶ Trial Tr. 1777:16-1778:1 (Hill); [REDACTED]

the *prima facie* case. *See id.* at 725; *United States v. H&R Block*, 833 F. Supp. 2d 36, 72 (D.D.C. 2011). They cannot rebut the presumption. As shown *supra*, significant evidence of potential competitive harm corroborates the presumption. Moreover, neither the possibility of entry or expansion, nor any claimed efficiencies, can redeem the Merger.

1. Entry And Expansion Would Not Be Timely, Likely, or Sufficient.

“Defendants carry the burden of showing that entry or expansion of competitors will be ‘timely, likely and sufficient in its magnitude, character, and scope to deter or counteract the competitive effects of concern.’” *Staples 2016*, 190 F. Supp. 3d at 133 (quoting *H&R Block*, 833 F. Supp. 2d at 73). De novo entry is unlikely. [REDACTED]

[REDACTED]

[REDACTED]

Even assuming an entrant had the technology, capital, intellectual property, and other expertise necessary to enter, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Thus, entry would not be timely.

Defendants argued at trial that producers based in China have the capability to offset the competitive harms of the Acquisition. This too is highly unlikely. First, the vast majority of production in China is sulfate TiO₂. As described above, North American chloride TiO₂ customers would not

138 [REDACTED]; *see* Trial Tr. 2138:15-2139:16 (Romano, Tronox) (agreeing that 4 years to build a plant is “faster than you would expect”).

139 [REDACTED]

meaningfully switch to sulfate TiO₂ if faced with a SSNIP. *See supra* at Section I.A.1.a. As Tronox explained to investors in 2016: “[D]o we confront China-produced supply in the market as a competitive alternative to our supply? And as I’ve said, we don’t. . . . [T]he kind of customers that will buy our high-quality pigment are not simultaneously looking at -- for the same supply need Chinese product.”¹⁴⁰

Second, firms in China have recently begun manufacturing chloride TiO₂, but Chinese chloride does not have any meaningful impact in the North American market. Defendants have pointed to China’s largest producer Lomon Billions. But imports of chloride TiO₂ from all producers in China account for *only 1%* of the North American market for chloride TiO₂.¹⁴¹ Those producers are still years away from being able to consistently produce commercially viable chloride TiO₂ for use in North America. [REDACTED]

[REDACTED] In 2016, Cristal similarly observed that:

Many in the industry have been predicting this sulfate to chloride transformation for quite some time, but progress thus far has been minimal. It’s been exceedingly difficult for the Chinese to acquire and successfully employ the proprietary chloride technology. Over time the Chinese are expected to gradually progress with this transformation, but it’s difficult to predict when, to what extent, and how fast this will occur. Very small inroads have been made to date.¹⁴³

Defendants’ competitors agree that Chinese chloride TiO₂ is not likely to impact North America in the near term. [REDACTED]

¹⁴⁰ PX9001 at 009 (Tronox Q3 2016 Earnings Call).

¹⁴¹ [REDACTED]

¹⁴² [REDACTED]

¹⁴³ PX2073 at 012 (Cristal).

[REDACTED]

Furthermore, North American customers testified at trial that Chinese chloride TiO₂ could not be used to defeat a price increase. [REDACTED]

[REDACTED]

[REDACTED] Deceuninck testified that it has not looked at Chinese TiO₂ when faced with price increases from Defendant Tronox, and that buying TiO₂ from China would be its “last resort.”¹⁵⁰

Based on the testimony and documentary evidence, Defendants cannot meet their burden to show that de novo entry or expansion is likely, timely, or would occur at sufficient scale to offset anticompetitive effects from the proposed Acquisition in North America. Nor is speculation about future expansion from Chinese producers, who today supply less than 1% of the market, enough to rebut the presumption of harm and evidence of anticompetitive effects established by the FTC.

2. Defendants’ Efficiencies Defense Fails.

No court has ever permitted an otherwise unlawful transaction to proceed due to claimed efficiencies. *See Sysco*, 113 F. Supp. 3d at 82; *CCC Holdings*, 605 F. Supp. 2d at 72. Indeed, “[h]igh market concentration levels,” like those resulting from the Acquisition, require “proof of extraordinary efficiencies.” *Heinz*, 246 F.3d at 720. Defendants must substantiate their claimed efficiencies with sufficient evidence to permit an independent party to “verify by reasonable means the likelihood and

[REDACTED]

¹⁵⁰ Trial Tr. at 1094:21-1095:15 (Arrowood, Deceuninck).

magnitude of each asserted efficiency, how and when each would be achieved (and any costs of doing so), how each would enhance the merged firm’s ability and incentive to compete, and why each would be merger-specific.” *Merger Guidelines* § 10; see *United States v. Anthem, Inc.*, 855 F.3d 345, 356, 359 (D.C. Cir. 2017) (citing *Merger Guidelines* § 10). Consequently, Defendants bear a heavy burden.

Defendants’ primary asserted efficiencies fall into three categories: (1) alleged expansion of chloride TiO₂ feedstock—not the product at issue but rather an input—at Cristal’s smelter in Jazan, Saudi Arabia; (2) alleged expansion of chloride TiO₂ production at Cristal’s chloride TiO₂ plant in Yanbu, Saudi Arabia; and (3) various alleged cost savings efficiencies. Defendants’ asserted efficiencies are not merger-specific and verifiable, and are not likely to impact the chloride TiO₂ market in North America.

First, Defendants claim that Tronox will increase feedstock production in Jazan, Saudi Arabia. This claim lacks merger specificity for three reasons: (1) the Jazan smelter is not a part of the Acquisition, but instead is subject to a separate option agreement; (2) it is uncertain whether Tronox will ever actually acquire the Jazan smelter; and (3) an acquisition by Tronox is not the only way in which the Jazan smelter can become operational. Defendants did not include the Jazan smelter in the proposed Acquisition.¹⁵¹ Instead, on the eve of trial, more than a year after the Acquisition agreement was signed, Defendants entered into a separate agreement related to Jazan.¹⁵² [REDACTED]

[REDACTED]

[REDACTED].¹⁵³ Thus, Tronox’s CEO testified that even if the

¹⁵¹ Trial Tr. at 2377:11-2378:17 (Quinn, Tronox) (confirming that the Acquisition agreement did not include the Jazan slag in the purchase price and characterizing the Jazan option agreement, which was entered into over a year after the Acquisition agreement, as an “independent” obligation).

¹⁵² *Id.*

¹⁵³ [REDACTED]

[REDACTED]

Merger is consummated, there is “no certainty” that Tronox ultimately will purchase Jazan.¹⁵⁴ An efficiency cannot be merger-specific where it is not generated by the Merger at all, but by a separate, and uncertain, acquisition of assets.¹⁵⁵ [REDACTED]

Defendants’ Jazan claims also fail because they are not verifiable. First, the Jazan efficiencies cannot be independently verified when no one can verify today that the Jazan acquisition will even take place. Second, Tronox’s bald assertions that it alone can and will fix Jazan are belied by the steps it has taken to insulate itself from the risk that it will not be able to fix the facility. [REDACTED]

[REDACTED] Tronox faces no consequences if Jazan never works.

Defendants’ second category of claimed efficiencies involves increasing chloride TiO₂ production at Cristal’s plant in Yanbu, Saudi Arabia, by resolving operational issues at the plant. This claim is not merger-specific, because [REDACTED]

¹⁵⁴ Trial Tr. at 2375:4-12 (Quinn, Tronox); *see also* Trial Tr. at 2100:9-12 (Stoll, Cristal).

¹⁵⁵ Defendants cannot identify a single case where a court has even considered efficiencies that were generated not by the transaction in question, but by some *separate* acquisition of assets. To the contrary, courts that have considered an efficiencies defense presume that the claims relate to efficiencies generated by the acquisition in question. *See, e.g., Penn State Hershey*, 838 F.3d at 347 (efficiencies defense entails a showing by defendants that “the anticompetitive effects of the merger will be offset by extraordinary efficiencies *resulting from the merger*”) (citation omitted and emphasis added). The Merger Guidelines presume the same—considering efficiencies “accomplished with the proposed merger” in evaluating the effects of the merger in question. *Merger Guidelines* § 10.

¹⁵⁶ *See, e.g.,* [REDACTED]

¹⁵⁷ [REDACTED]

¹⁵⁸ [REDACTED]

the synergies are ex U.S.”¹⁶² The Jazan claims concern the production of feedstock—not chloride TiO₂—in Saudi Arabia, and Defendants have not shown how these purported benefits, should they materialize, will have any effect on the North American market. The Yanbu claims are likewise largely out of market, [REDACTED]

[REDACTED]¹⁶⁴

II. THE EQUITIES HEAVILY FAVOR A TEMPORARY RESTRAINING ORDER AND PRELIMINARY INJUNCTION.

The equities therefore weigh heavily in favor of issuing a temporary restraining order and preliminary injunction. Here, the paramount public equity favoring injunctive relief is the “public interest in effective enforcement of the antitrust laws,” *Heinz*, 246 F.3d at 726, as congressional concern for antitrust enforcement was the genesis of Section 13(b). *Whole Foods*, 548 F.3d at 1035 (Brown, J.).

If this Court does not grant provisional relief, and the Commission determines the proposed acquisition to be unlawful, “it would be impossible to recreate pre-merger competition because the merging parties would have already combined their operations and they would be difficult to separate, even by a subsequent divestiture order.” *Sysco*, 113 F. Supp. 3d at 87 (quoting *Heinz*, 246 F.3d at 726). Indeed, “Section 13(b) itself embodies congressional recognition of the fact that divestiture is an inadequate and unsatisfactory remedy in a merger case, a point that has been emphasized by the United States Supreme Court.” *Heinz*, 246 F.3d at 726 (citing *FTC v. Dean Foods Co.*, 384 U.S. 597, 606 n.5 (1966)) (internal citations omitted).

¹⁶² PX9101 at 007 (Tronox Q4 2017 Earnings Call); Trial Tr. at 2407:20-25(Quinn, Tronox) (“I would agree with you that the overwhelming majority of those synergies are related to . . . non-U.S. assets.”).

¹⁶³ [REDACTED] *see* [REDACTED]

¹⁶⁴ [REDACTED]

Section 7 exists to stop anticompetitive mergers “in their ‘incipiency’,” *Phila. Nat’l Bank*, 374 U.S. at 362. If Defendants are allowed to merge during the pendency of this case, Tronox would gain access to competitively sensitive information about Cristal’s plants, costs, and customers, further increasing the transparency that makes this market ripe for coordination even today. The merged firm would be free to begin closing or adjusting output levels at plants, reallocating supply to different facilities, eliminating workers, and renegotiating agreements with customers almost immediately. The effects on output and pricing during this period would be irreversible, and it would likely be impossible for the Commission to fully restore competition after Defendants integrate their businesses.

Defendants have argued previously that there has been undue delay in the Commission’s challenge to the proposed Acquisition, and may renew that argument before this Court. There has been no delay by the Commission.¹⁶⁵ As soon as the Commission determined there was “reason to believe,” 15 U.S.C. § 45(b), the Merger may violate the antitrust laws, it issued an administrative complaint, which proceeded rapidly through discovery and to trial. That trial has already concluded, and the ALJ is moving towards a decision. In some but not all cases, the Commission has simultaneously initiated Section 13(b) proceedings in federal district court, to prevent the defendants from closing the transaction pending the conclusion of the administrative proceeding.¹⁶⁶ Here, it had been unnecessary to burden this Court with such a request, because Defendants have been prohibited from closing the Acquisition for the past several months due to proceedings before the European Commission’s competition authority.¹⁶⁷ But because it appears the European competition authority is now likely to

¹⁶⁵ Defendants, on the other hand, have twice sought a stay of litigation before the Commission, first from Staff, then months later, in a motion to the Commission. Both requests were denied.

¹⁶⁶ The Commission has initiated administrative proceedings against unconsummated mergers without seeking a preliminary injunction where respondents have been unable to consummate the merger, often because of pending regulatory review elsewhere. *See, e.g., In re Cabell Huntington Hosp., Inc.*, No. 9366, Compl. (FTC Nov. 15, 2015) (Compl.); *In re Pinnacle Entm’t, Inc.*, No. 9355, Compl. (FTC May 28, 2013); *In re Omnicare, Inc.*, No. 9352, Compl. (FTC Jan. 27, 2012).

¹⁶⁷ *See* PX9128 at 002 (*In re Tronox Ltd.*, No. 9377, Order Denying Respondents’ Motion to Stay and Temporarily Withdraw This Matter From Adjudication, FTC May 16, 2018) (“The Commission may

complete its review and accept a remedy from Defendants as early as July 16, 2018, the Commission must now ask this Court to provisionally halt the proposed Acquisition until a final decision on the merits can be issued by the ALJ and the Commission, and any appeals are exhausted.

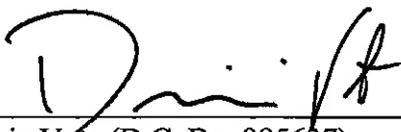
Finally, the Court should reject any argument or invitation by Defendants to offer a decision on the merits in this matter as a result of any timing-related concerns of the Defendants. First, as discussed above, actions under Section 13(b) do not decide the merits of an underlying transaction. Second, Defendants already made this argument in an unsuccessful collateral attack on the Commission's prosecutorial authority. Specifically, Defendants previously filed a complaint before the U.S. District Court for the Northern District of Mississippi, alleging that proceedings before the Commission would not resolve before May 2018, when the proposed Acquisition was then-scheduled to terminate. When that court refused to expedite proceedings, Defendants simply extended their Acquisition to March 2019, and withdrew their complaint. Defendants will obtain a decision on the merits from the ALJ well before March 2019, and there is additional time available for Defendants or Complaint Counsel to seek an appeal to the Commission, if necessary. Finally, Defendants are always free to extend the timeline for the transaction by agreement, as they have done in the past. In short, none of the timing-related concerns that Defendants have raised suggest any need for this Court to either retry the administrative trial that has already occurred and is properly before the ALJ, or to entangle itself in the Commission's process and rule on the merits, contrary to settled precedent in this jurisdiction.

CONCLUSION

For the reasons described above, Plaintiff respectfully requests that the Court grant a temporary restraining order and preliminary injunction pursuant to Section 13(b) of the FTC Act.

seek a preliminary injunction to preserve the status quo, *i.e.*, to prevent consummation of the proposed transaction, until the administrative proceeding on the merits takes place. *At present, there is no need for a preliminary injunction action to preserve the status quo.*") (citation omitted).

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