

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

IN RE: DIISOCYANATES ANTITRUST
LITIGATION

This Document Relates to: All Actions

Master Docket Misc. No. 18-1001

MDL No. 2862

Honorable Donetta W. Ambrose

(Jury Trial Demanded)

[CORRECTED] CONSOLIDATED AMENDED CLASS-ACTION COMPLAINT

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I. NATURE OF THE CASE

1. Plaintiffs Utah Foam Products, Inc. (“Utah Foam”); NPC Coatings, Inc. (“NPC”); Rhino Linings Corporation, and Tri-Iso Tryline LLC (collectively, “Plaintiffs”), individually and on behalf of a class of all those similarly situated, bring this action for treble damages under Sections 1 and 3 of the Sherman Act (15 U.S.C. §§ 1, 3) against Defendants (as defined below), and demand a trial by jury. Except with respect to the allegations as to the named Plaintiffs, all other allegations herein are based on information and belief.¹

2. This action arises out of a conspiracy to violate federal antitrust laws by manufacturers and sellers of methylene diphenyl diisocyanate (“MDI”) and toluene diisocyanate (“TDI”) that sold to entities in the United States, its territories and the District of Columbia (and their controlled subsidiaries, affiliates, agents and/or or joint ventures). Those manufacturers and/or sellers consist of: (a) Bayer A.G. and Bayer Corporation (collectively, “Bayer”); (b) Covestro A.G. and Covestro LLC (formerly known as Bayer MaterialScience LLC); (c) BASF SE and BASF Corporation; (d) Dow Chemical Company; (e) Huntsman International LLC and Huntsman Corporation; (f) Wanhua Chemical Group Co., Ltd., and Wanhua Chemical (America) Co., Ltd.; and (g) Mitsui Chemicals, Inc., Mitsui Chemicals America, Inc., MCNS (a.k.a. Mitsui Chemicals & SKC Polyurethanes, Inc.), and MCNS Polyurethanes USA Inc. All of these entities are referred to collectively herein as the “Defendants.” In addition, Plaintiffs allege that Kumho Petrochemical, Inc. (“KPI”), Kumho Mitsui Chemicals, Inc. (50% owned by Defendant MCNS,

¹ On January 22, 2019, pursuant to an order by the Court, [REDACTED] in connection with the criminal investigation described below. Plaintiffs’ review of those documents has just commenced and will take months to complete. But even a very abbreviated review of portions of those documents has uncovered some material that is cited in this Consolidated Amended Complaint (“CAC”). Where that material is non-public, references to it have been redacted in the public version of the CAC being filed.

50% owned by co-conspirator KPI), and SKC Polyurethanes, Inc., which are companies that also manufactured and/or sold MDI and TDI Products during the Class Period, participated in the conspiracy, though they are not named as defendants at this time.

3. Plaintiffs allege a conspiracy among the Defendants and certain named and unnamed co-conspirators to fix, raise, maintain and/or stabilize prices for MDI and TDI products sold in or shipped to the United States during the period from at least January 1, 2016 through the present (the “Class Period”).² The conspiracy was implemented through coordinated lockstep price increases for such products during the Class Period. It was further implemented, in part, through an agreement among Defendants to limit production of MDI and TDI products to facilitate the coordinated and repeated price increases for these products. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

4. MDIs and TDIs are precursor ingredients for the manufacture of polyurethane foams and thermoplastic polyurethanes. Flexible polyurethane foam is used in products such as mattresses, upholstered furniture and car seats. Rigid polyurethane foam is used mostly as an

² [REDACTED]

[REDACTED] Plaintiffs believe that, given the existence of declining prices for MDI and TDI in the early portion of 2015, the Defendants had a motive to agree in that year to correct the downturn by reducing supply and raising prices. Plaintiffs are currently proposing a Class Period that extends from January 1, 2016 to the present, but reserve the right to amend the CAC to the extent that discovery and data reveals an earlier commencement date for the Class Period.

efficient insulating material for buildings and refrigeration appliances. Thermoplastic polyurethanes are used in diverse product groups such as clothing, mobile electronic devices and sports equipment.

5. In the years leading up to the Class Period, prices for MDIs and TDIs in the United States and across the globe were low and relatively stable. As noted by the Independent Chemical Information Service (“ICIS”) in September of 2013, MDI prices in the United States were “steady, amid balanced supply and demand. No pricing announcements have been heard, suggesting prices will remain[] stable into October [2013]”.

6. In 2014, Defendants Covestro (then wholly owned by Bayer), Dow, BASF, Huntsman, Wanhua and Mitsui as identified below) were experiencing reduced profits in MDI and TDI products caused by a “market oversupply”—that is, lower prices due to increased competition owing to more product availability.

7. Before the conspiracy, prices actually *declined* due to lower costs of raw materials, such as benzene and oil. In order to stop the declining profit rates and increase their margins, Defendants conspired to fix, raise, stabilize and maintain MDI and TDI prices by: (a) engaging in a series of lockstep price increases for these products and (b) engaging in coordinated restrictions on the production of these products.

8. During the Class Period, Defendants collectively carried out their plan to steadily increase the prices for their MDI and/or TDI products even though cost factors and market conditions did not justify such repeated price increases. This plan was implemented in part by Defendants’ actions in permanently closing and/or temporarily suspending operations of some of their MDI and/or TDI manufacturing plants located around the world, as well as operating such plants at reduced capacity. Prior to the conspiracy, plant-related issues were rare, with only two

plant closures and two reduced output incidents reported during the three years 2012-2014.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] This sudden appearance of plant closures or production limitations across all major manufacturers and sellers of MDI and TDI products is unprecedented and cannot be explained by mere coincidence. Rather, it is the result of an illegal agreement among the Defendants.

9. Defendants justified their collusive price hikes of MDI and TDI products sold in the United States and elsewhere starting in 2016 by pointing to the tightening availability of MDI and TDI products worldwide. This global supply “shortage” was one which they created. These price hikes were not caused by increases in the cost of raw materials or any other legitimate business reason. Defendants maintain artificially inflated prices of MDI and TDI products to this day. As a result of Defendants’ price hikes, prices for TDI and MDI products reached a sustained, unprecedented high level, a pattern that represents a sharp break from what existed prior to the onset of the conspiracy.

10. Antitrust enforcers have taken notice of these developments. On June 11, 2018, it was revealed that the Antitrust Division of the United States Department of Justice (“DOJ”) had caused a federal grand jury to issue subpoenas to manufacturers of MDI products in connection with a criminal investigation of price-fixing of MDI products. [REDACTED]

[REDACTED]

██████████ Certain Defendants recently represented that the DOJ's investigation was closed without further action, but Plaintiffs have not received any independent confirmation.³

11. This is not the first time MDI and TDI product producers have raised antitrust concerns. Indeed, most of the same Defendants were involved in prior criminal and civil antitrust cases concerning a conspiracy to fix, *inter alia*, MDI and TDI prices.

12. In the prior civil antitrust case, Dow was subjected to a \$1.06 billion judgment after a jury found it guilty of antitrust violations, and Huntsman, BASF and Bayer Corporation (the predecessor of Covestro), among others, paid \$140 million in class-action settlements. Those entities also paid more than \$460 million in additional individual non-class settlements for the same 1999-2004 conspiracy period. In affirming the judgment against Dow, the United States Court of Appeals for the Tenth Circuit observed that there was “undisputed” evidence of “the existence of an agreement to coordinate price-increase announcements and try to make them stick” and “the existence of evidence involving coordination in announcing price increases.” *In re Urethane Antitrust Litig.*, 768 F.3d 1245, 1263 (10th Cir. 2014), *cert. dismissed*, 136 S.Ct. 1400 (2016) (“*Urethanes*”). The Tenth Circuit noted testimony presented by plaintiffs’ expert that there was “‘a widespread pattern of communication’ among the top executives of the defendant companies... [He] was struck not only by the frequency and secrecy of these communications but also by their timing, for the contacts frequently occurred within days of a lockstep price-increase announcement. This proximity suggested that the price-increase announcements had been coordinated.” 768 F.3d at 1264. The evidence showed that the industry was “ripe for collusion”,

³ If the DOJ did close its investigation, that is far from dispositive, given the differing standards of proof in criminal and civil cases. In *In re Resistors Antitrust Litig.*, No. 5:15-cv-03820 RMW (N.D. Cal.), for example, the DOJ also closed its criminal investigation without taking any action, but settlements in the many tens of millions of dollars have been achieved.

given that market power was “concentrated in the hands of only a handful of firms”, “the market had high barriers to entry”, the products at issue were “homogeneous”, there “were no close product substitutes available to consumers”, there was excess capacity for MDI and TDI products, and trade associations existed that provided an opportunity to engage in price-fixing. *Id.*

13. The situation this time around is similar in some respects, and different in others. Defendants Dow, Bayer, Covestro, BASF, and Huntsman are still dominant players in the industry. A couple of relatively newer industry players—Wanhua and Mitsui—are now also in the market. The market still reflects the aforementioned market characteristics conducive to collusion. During the Class Period, price increases occurred in a coordinated and lockstep manner. As a result, prices for MDI and TDI products increased drastically. This time, however, MDI and TDI product prices reached *historically unprecedented levels that have stuck for over 2-1/2 years*, something never seen before. These increased price levels are counterintuitive, given the existence of excess capacity and relatively low raw material costs. Only an agreement to fix prices that is a *per se* violation of Sections 1 and 3 of the Sherman Act explains this conduct.

14. As noted above, another novel feature of the present conspiracy is Defendants’ repeated invocation of production-plant *force majeure*s (“FMs”) or production limitations to curtail production of MDI and TDI products for various periods, thereby ensuring that customers paid collusively-set supracompetitive prices. “[B]ecause economics teaches that an agreement to limit output is tantamount to an agreement to fix prices, courts also have applied the *per se* rule to agreements to limit production or set quotas....” 1 American Bar Association Section of Antitrust Law, *Antitrust Law Developments* at 91 (8th ed. 2017) (footnote omitted).

15. Once again, an industry dominated by recidivist antitrust violators is doing its best to victimize members of the Plaintiff Class by forcing them to pay collusively-fixed prices in violation of Sections 1 and 3 of the Sherman Act (15 U.S.C. §§ 1, 3).

16. Plaintiffs therefore bring this action on behalf of all individuals and entities that purchased MDI and TDI products in the United States directly from Defendants, as well as their predecessors, subsidiaries, and affiliates, throughout the “Class Period”. At all relevant times, Defendants and their co-conspirators manufactured and/or sold MDI and TDI products. During the Class Period, Defendants and their co-conspirators agreed, combined, and conspired with each other to fix, raise, maintain and/or stabilize prices and to limit supply for MDI and TDI products sold in the United States. As a result of Defendants' unlawful conduct, Plaintiffs and the Class (as defined in this Complaint) paid artificially inflated prices for these products, and therefore suffered injury to their business and property.

II. JURISDICTION AND VENUE

17. This action is instituted under Sections 4 and 16 of the Clayton Act (15 U.S.C. §§ 15 and 26) to recover treble damages, and the costs of this suit, including reasonable attorneys' fees, against Defendants for the injuries sustained by Plaintiffs and the members of the Class by reason of the violations, as hereinafter alleged, of Sections 1 and 3 of the Sherman Act (15 U.S.C. §§ 1, 3).

18. This Court has jurisdiction under 28 U.S.C. §§ 1331, 1337 and Sections 4 and 16 of the Clayton Act (15 U.S.C. §§ 15(a) and 26). In addition, jurisdiction is conferred upon this Court by 28 U.S.C. §§ 1332(d) and 1367.

19. Venue is proper in this District pursuant to Sections 4, 12, and 16 of the Clayton Act (15 U.S.C. §§ 15, 22, and 26 and 28 U.S.C. § 1391 (b), (c) and (d)) because during the Class

Period, the Defendants resided, transacted business, were found within, and/or had agents within this District, and a substantial part of the events giving rise to Plaintiffs' claims occurred and a substantial portion of the affected interstate trade and commerce described below was carried out in this District.

20. This Court has personal jurisdiction over Defendants because, *inter alia*, each: (a) transacted business in this District; (b) directly or indirectly manufactured and/or sold MDI and/or TDI products in this District; (c) has substantial aggregate contacts with this District; and/or (d) engaged in an illegal price-fixing conspiracy that was directed at, and had the intended effect of causing injury to, persons and entities residing in, located in, or doing business in this District.

III. PLAINTIFFS

21. Plaintiff Utah Foam is a Utah corporation with its principal place of business in Salt Lake City, Utah. Utah Foam purchased in the United States one or more of the products at issue directly from one or more of the Defendants during the Class Period and was injured in its business or property by reason of Defendants' alleged violations of the Sherman Act.

22. Plaintiff NCP is a Michigan corporation with its principal place of business in Niles, Michigan. NCP purchased in the United States one or more of the products at issue directly from one or more of the Defendants during the Class Period and was injured in its business or property by reason of Defendants' alleged violations of the Sherman Act.

23. Plaintiff Tri-Iso Tryline is an LLC registered in Washington State with its principal place of business in Cardiff by the Sea, California. Tri-Iso Tryline purchased in the United States one or more of the products at issue directly from one or more of the Defendants during the Class Period and was injured in its business or property by reason of Defendants' alleged violations of the Sherman Act.

24. Plaintiff Rhino Linings Corporation is a California corporation with its principal place of business in San Diego, California. Rhino Linings Corporation purchased in the United States one or more of the products at issue directly from one or more of the Defendants during the Class Period and was injured in its business or property by reason of Defendants' alleged violations of the Sherman Act.

IV. DEFENDANTS

25. **Bayer and Covestro Defendants.** Defendant Bayer A.G. is a German corporation with its principal place of business in Leverkusen, Germany. Bayer A.G. has extensive operations in the United States, either directly or through its wholly owned and controlled subsidiaries and affiliates. During the Class Period, Bayer A.G. manufactured and/or sold MDI and/or TDI products to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere, directly or through its subsidiaries Bayer MaterialScience LLC (currently d/b/a Covestro LLC) and Bayer Corporation ("Bayer Corp.").

26. Defendant Bayer Corp. is an Indiana corporation with its principal place of business in Whippany, New Jersey. It is a wholly owned subsidiary of Bayer A.G. During the Class Period, Bayer Corp. manufactured and/or sold MDI and/or TDI products to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere. Bayer A.G. controls Bayer Corp. both generally and with respect to the conduct of Bayer Corp. in furtherance of the unlawful acts alleged in the CAC. Bayer A.G., Bayer Corp. and Bayer MaterialScience are collectively referred to herein as "Bayer".

27. Defendant Covestro A.G. is a German corporation headquartered at Kaiser-Wilhelm-Allee 60, 51373 Leverkusen, Germany. Covestro A.G. is a spin-off company from Bayer, formed in the fall of 2015, and was formerly known as Bayer MaterialScience A.G. [REDACTED]

[REDACTED] Covestro A.G. bills itself as being “among the leading suppliers of premium polymers” and “the global leader in the development, production, and marketing of polyurethanes.” The polyurethane segment of Covestro A.G.’s sales contributed almost \$9 billion to Covestro A.G.’s \$16.3 billion in revenue. During the Class Period, Covestro A.G. manufactured, marketed, and/or sold MDI and/or TDI products to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere, directly or through its wholly owned subsidiary Covestro LLC. [REDACTED]

██████████ both generally and with respect to the conduct of Covestro A.G. in furtherance of the unlawful acts alleged in this CAC.

28. Defendant Covestro LLC is a Delaware company with its principal place of business in Pittsburgh, Pennsylvania. On September 1, 2015, Covestro LLC, a wholly owned subsidiary of Covestro A.G., was created as a spin-off from Bayer MaterialScience LLC (“Bayer MaterialScience”). During the Class Period, Covestro LLC (as itself and formerly as Bayer MaterialScience) manufactured and/or sold MDI and/or TDI products to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere. [REDACTED]

_____ (formerly d/b/a Bayer MaterialScience) both generally and with respect to the conduct of Covestro LLC in furtherance of the unlawful acts alleged in this CAC. Bayer A.G., Bayer Corp., Bayer MaterialScience, Covestro A.G. and Covestro LLC are collectively referred to herein as “Covestro”.

29. **BASF Defendants.** Defendant BASF SE is a German corporation with its principal place of business in Ludwigshafen, Germany. BASF SE bills itself as “the world’s

leading chemical company,” and had over \$74 billion in global sales in 2017. BASF SE has extensive operations throughout the United States, either directly or through its wholly owned and controlled subsidiaries and affiliates. During the Class Period, BASF SE manufactured and/or sold MDI and/or TDI products to purchasers in the United States, its territories, and the District of Columbia, and elsewhere, directly or through predecessors, affiliates and/or subsidiaries.

30. Defendant BASF Corporation (“BASF Corp.”) is a Delaware corporation with its principal place of business in Florham Park, New Jersey. During the Class Period, BASF Corp. manufactured and/or sold MDI and/or TDI products to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere. BASF Corp. is a wholly owned subsidiary and the North American affiliate of BASF SE. BASF SE controls BASF Corp. both generally and with respect to the conduct of BASF Corp. in furtherance of the unlawful acts alleged in this CAC. BASF SE and BASF Corp. are collectively referred to herein as “BASF”.

31. **Dow Defendant.** Defendant Dow Chemical Company (“Dow”) is a Delaware corporation with its principal place of business in Midland, Michigan. During the Class Period, Dow manufactured and/or sold MDI and/or TDI products to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere. On December 11, 2015, Dow and E.I. du Pont de Nemours and Company (“DuPont”) entered into an agreement and plan of merger, under which the companies became subsidiaries of DowDuPont Inc. (“DowDuPont”), a holding company. On information and belief, DowDuPont will be dissolved in 2019.

32. **Huntsman Defendants.** Defendant Huntsman International LLC (“Huntsman International”) is a Delaware company with its principal place of business in The Woodlands, Texas. During the Class Period, Huntsman International manufactured and/or sold MDI products

to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere. Huntsman International is a wholly owned subsidiary of Huntsman Corporation.

33. Defendant Huntsman Corporation (“Huntsman Corp.”) (formerly Huntsman LLC) is a Delaware corporation with its principal place of business in The Woodlands, Texas. During the Class Period, Huntsman Corp. manufactured and/or sold MDI products to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere, either directly or through its wholly owned and controlled subsidiaries and affiliates. This is corroborated in Huntsman Corp.’s 2016 Annual Report, stating that Huntsman Corp. and its subsidiaries “are a leading global producer in many of our key product lines, including MDI...” Huntsman Corp. controls Huntsman International generally and with respect to the conduct of Huntsman International in furtherance of the unlawful acts alleged in this Complaint. Huntsman Corp. and Huntsman International are collectively referred to herein as “Huntsman.”

34. **Wanhua Defendants.** Defendant Wanhua Chemical (America) Co. Ltd. (“Wanhua America”) is a Nevada corporation with its principal place of business in Newtown Square, Pennsylvania. During the Class Period, Wanhua America manufactured and/or sold MDI and TDI products to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere. Wanhua America is a wholly owned subsidiary of Wanhua Chemical Group Co., Ltd.

35. Wanhua Chemical Group Co., Ltd. (“Wanhua China”) is a Chinese corporation with its principal place of business in Yantai, China. According to its 2017 annual statement, “[t]he Company is mainly engaged in R&D, production, and sale of PU series products (MDI, TDI, and Polyols)...”. Wanhua China has extensive operations throughout the United States, its territories, and the District of Columbia, either directly or through its wholly owned and controlled

subsidiaries and affiliates. As an example, it announced plans to build a \$1.12 billion chemical manufacturing plant in Louisiana in 2017, after the state's economic-development arm promised it a \$4.3 million infrastructure grant. During the Class Period, Wanhua China manufactured and/or sold MDI and TDI products to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere, directly or through predecessors, affiliates and/or subsidiaries. Wanhua China controls Wanhua America both generally and with respect to the conduct of Wanhua America in furtherance of the unlawful acts alleged in this CAC. Wanhua China and Wanhua America are collectively referred herein to as "Wanhua".

36. **Mitsui Defendants.** Mitsui Chemicals America, Inc. ("Mitsui America") is a Delaware corporation with its principal place of business in Rye Brook, New York. During the Class Period, Mitsui America manufactured and/or sold MDI and TDI products to purchasers throughout the United States, its territories, and the District of Columbia, and elsewhere. Mitsui America is a wholly owned subsidiary of Mitsui Chemicals, Inc. and operates under its parent's "global strategy."

37. Mitsui Chemicals, Inc. ("Mitsui Japan") is a Japanese corporation with its principal place of business in Tokyo, Japan. Mitsui Japan has extensive operations throughout the United States, either directly or through its wholly owned and controlled subsidiaries and affiliates. During the Class Period, Mitsui Japan manufactured and/or sold MDI and TDI products to purchasers in the United States, its territories, and the District of Columbia, and elsewhere, directly or through predecessors, affiliates and/or subsidiaries.

38. MCNS (a.k.a. Mitsui Chemicals & SKC Polyurethanes, Inc.) is a Korean and Japanese corporation with its principal place of business in Seoul, Korea. MCNS was established in July 1, 2015 as an equally-owned joint venture between Mitsui Japan and South Korea-based

SKC Polyurethanes Inc. (“SKC”). MCNS has operations throughout the United States, its territories, and the District of Columbia, either directly or through its wholly owned and controlled subsidiaries and affiliates. MCNS describes itself as a “global comprehensive manufacturer of polyurethane materials.” During the Class Period, MCNS manufactured and/or sold MDI and TDI products to purchasers in the United States, its territories, and the District of Columbia, and elsewhere, directly or through predecessors, affiliates, and/or subsidiaries.

39. MCNS Polyurethanes USA Inc. (“MCNS USA”) is a Georgia corporation with its principal place of business in Covington, Georgia. During the Class Period, MCNS USA manufactured and/or sold MDI and TDI products to purchasers in the United States, its territories, and the District of Columbia, and elsewhere. MCNS USA is a wholly owned subsidiary of MCNS. Mitsui Japan controls Mitsui America, and co-controls (with SKC) MCNS and MCNS USA both generally and with respect to the conduct of Mitsui America, MCNS and MCNS USA in furtherance of the unlawful acts alleged in this Complaint. Mitsui Japan, Mitsui America, MCNS USA, and MCNS are collectively referred to herein as “Mitsui”.

40. [REDACTED]

[REDACTED]

V. CO-CONSPIRATORS

41. While not named as Defendants herein, various other persons, firms and corporations, including Kumho Petrochemical, Inc. (“KPI”), Kumho Mitsui Chemicals, Inc. (“KMCI”), and SKC Polyurethanes, Inc., have participated as co-conspirators with Defendants and have performed acts and made statements in furtherance of the conspiracy.

42. Whenever in this CAC reference is made to any act, deed, or transaction of any corporation, the allegation means that the corporation engaged in the act, deed, or transaction by or through its officers, directors, agents, employees or representatives while they were actively

engaged in the management, direction, control or transaction of the corporation's business or affairs.

43. When Plaintiffs refer to a corporate family or companies by a single name in its allegations of participation in the conspiracy, it is to be understood that the Plaintiffs are alleging that one or more employee or agent of entities within the corporate family engaged in conspiratorial acts or meetings on behalf of all of the Defendant companies within that family. In fact, the individual participants in the conspiratorial meetings and discussions did not always know the corporate affiliation of their counterparts, nor did they distinguish among the entities within a corporate family. The individual participants entered into agreements on behalf of, and reported these meetings and discussions to, their respective corporate families. As a result, the entire corporate family was represented in meetings and discussions by their agents and were parties to the agreements reached by them. Furthermore, to the extent that subsidiaries within corporate families distributed products containing MDI and/or TDI, these subsidiaries played a significant role in the alleged conspiracy because Defendants wished to ensure that the prices paid for such products would not undercut the pricing agreements reached at these various meetings. Thus, all Defendant entities within the corporate families were active, knowing participants in the alleged conspiracy.

VI. CLASS ACTION ALLEGATIONS

44. Plaintiffs bring this action on behalf of themselves and as a class action under the provisions of Rule 23(a), (b)(2) and (b)(3) of the Federal Rules of Civil Procedure on behalf of all members of the following Class:

All entities in the United States, its territories, and/or the District of Columbia who purchased directly (including through controlled subsidiaries, agents, affiliates and/or joint ventures) Methylene Diphenyl Diisocyanate Products and/or Toluene

Diisocyanate Products from any of the Defendants or their subsidiaries or affiliates, at any time from January 1, 2016 until the present. The Class excludes the Defendants, co-conspirators, and any of their parents, subsidiaries or affiliates. The Class further excludes state and federal governmental entities. The Class also excludes all judicial officers presiding over this action and their immediate family members and staff, and any juror assigned to this action.

45. Plaintiffs do not know the exact number of Class members because such information is in the exclusive control of Defendants or their co-conspirators. But due to the nature of the trade and commerce involved, Plaintiffs believe that there are thousands of Class members as described above, the exact number and their identities being known by Defendants and their co-conspirators.

46. The Class is so numerous and geographically dispersed that joinder of all members is impracticable.

47. There are questions of law and fact common to the Class, including:

- a. Whether Defendants and their co-conspirators engaged in a combination and conspiracy among themselves to fix, raise, maintain and/or stabilize prices of MDI and TDI products sold in the United States, its territories and/or the District of Columbia;
- b. Whether Defendants and their co-conspirators engaged in a combination and conspiracy among themselves to allocate customers and the markets for MDI and TDI products sold in the United States;
- c. The identity of the participants of the alleged conspiracy;
- d. The duration of the alleged conspiracy and the acts carried out by Defendants and their co-conspirators in furtherance of the conspiracy;

- e. Whether the alleged conspiracy violated Sections 1 and 3 of the Sherman Act (15 U.S.C. §§ 1, 3);
- f. Whether the conduct of Defendants and their co-conspirators, as alleged in this Complaint, caused injury to the business or property of the Plaintiffs and the other members of the Class; and
- g. The effect of the alleged conspiracy on the prices of MDI and TDI products sold in the United States, its territories and/or the District of Columbia during the Class Period; and
- h. The appropriate class-wide measure of damages.

48. Plaintiffs' claims are typical of the claims of the members of the Class. Plaintiffs and all members of the Class are similarly affected by Defendants' wrongful conduct in that they paid artificially inflated prices for MDI and TDI products purchased directly from Defendants and/or their co-conspirators. Plaintiffs' claims arise out of the same common course of conduct giving rise to the claims of the other members of the Class.

49. Plaintiffs will fairly and adequately protect the interests of the Class. Plaintiffs' interests coincide with, and not antagonistic to, those of the other members of the Class. Plaintiffs are represented by counsel who are competent and experienced in the prosecution of antitrust and class action litigation.

50. The questions of law and fact common to the members of the Class predominate over any questions affecting only individual members, including legal and factual issues relating to liability and damages.

51. Class action treatment is a superior method for the fair and efficient adjudication of the controversy in that, among other things, such treatment will permit a large number of

similarly situated persons to prosecute their common claims in a single forum simultaneously, efficiently and without the unnecessary duplication of evidence, effort, and expense that numerous individual actions would engender. The benefits of proceeding through the class mechanism, including providing injured persons or entities with a method for obtaining redress for claims that might not be practicable to pursue individually, substantially outweigh any difficulties that may arise in management of this class action.

VII. TRADE AND INTERSTATE COMMERCE

52. During the Class Period, Defendants marketed, sold and distributed substantial quantities of MDI and/or TDI products in a continuous and uninterrupted flow of interstate commerce to customers throughout the United States, including in this District. In addition, the primary raw materials used to manufacture MDI and TDI products were purchased and shipped in a continuous and uninterrupted flow of interstate commerce.

53. Defendants' and their co-conspirators' conduct, including the marketing and sale of MDI and TDI products, took place within the United States, has had, and was intended to have, a direct, substantial and reasonably foreseeable anticompetitive effect upon interstate commerce within the United States.

VIII. DESCRIPTIONS OF MDI AND TDI

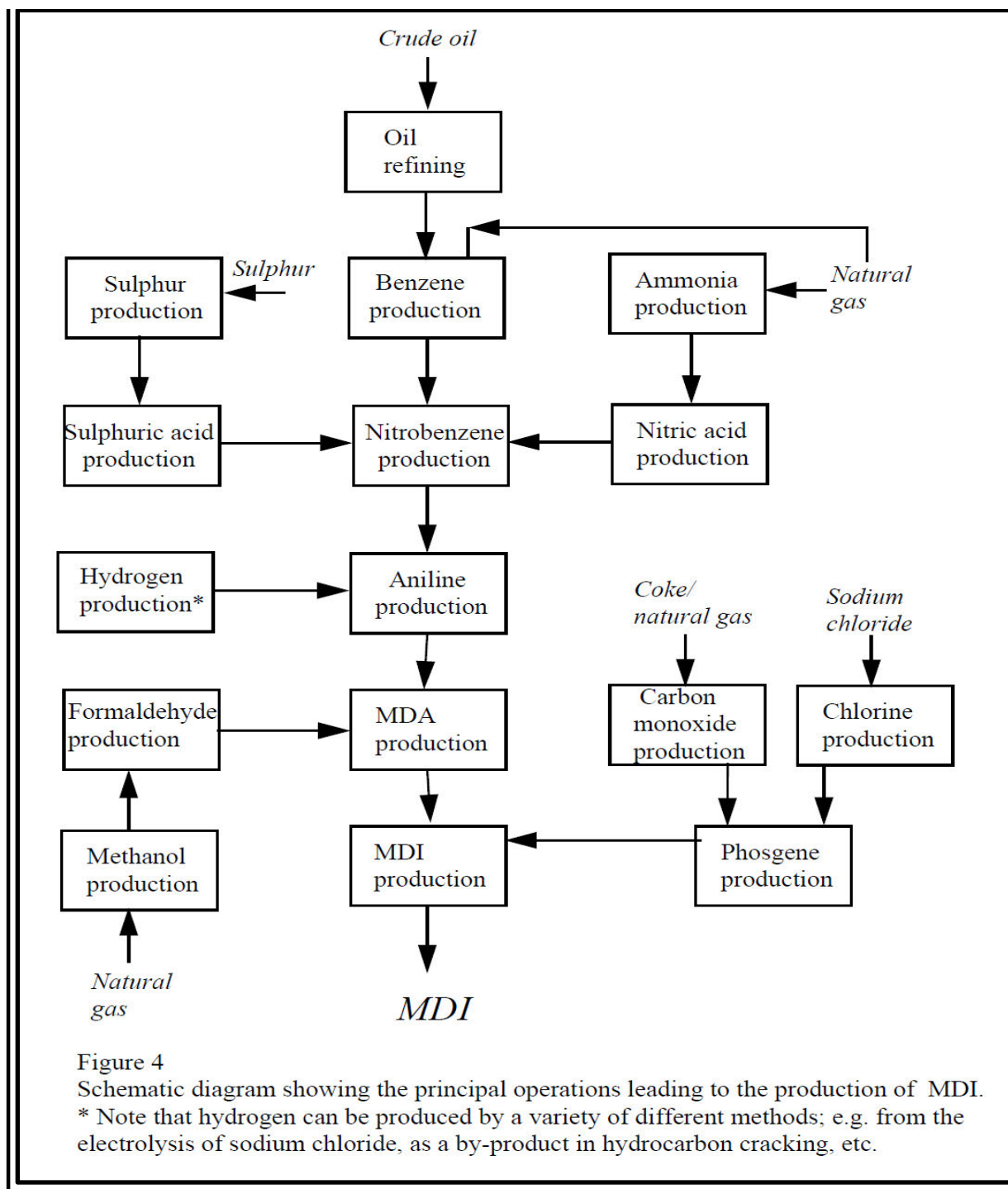
54. Diisocyanates are a family of chemical building blocks primarily used to make polyurethane products, such as rigid and flexible foams, coatings, adhesives, sealants and elastomers. Polyurethanes are largely made from two components: polyols, which include principally polyester and polyether polyols, and isocyanates, which include the aromatic diisocyanates MDI and TDI. Diisocyanates can also be referred to more broadly as "isocyanates" because organic compounds that contain an isocyanate group are called isocyanates.

55. Polyurethane was first discovered and patented in 1937 by Otto Bayer and his coworkers at the laboratories of I.G. Farbenindustrie (now known as Bayer A.G.) in Leverkusen, Germany. The German patent covered aromatic diisocyanates, which are methylene diphenyl diisocyanate and toluene diisocyanate.

56. Polyurethanes are produced by combining diisocyanates with polyols and other chemical additives. Diisocyanates used in polyurethane production are divided into two types: (1) aromatic diisocyanates (“ADI”) and (2) aliphatic diisocyanates.

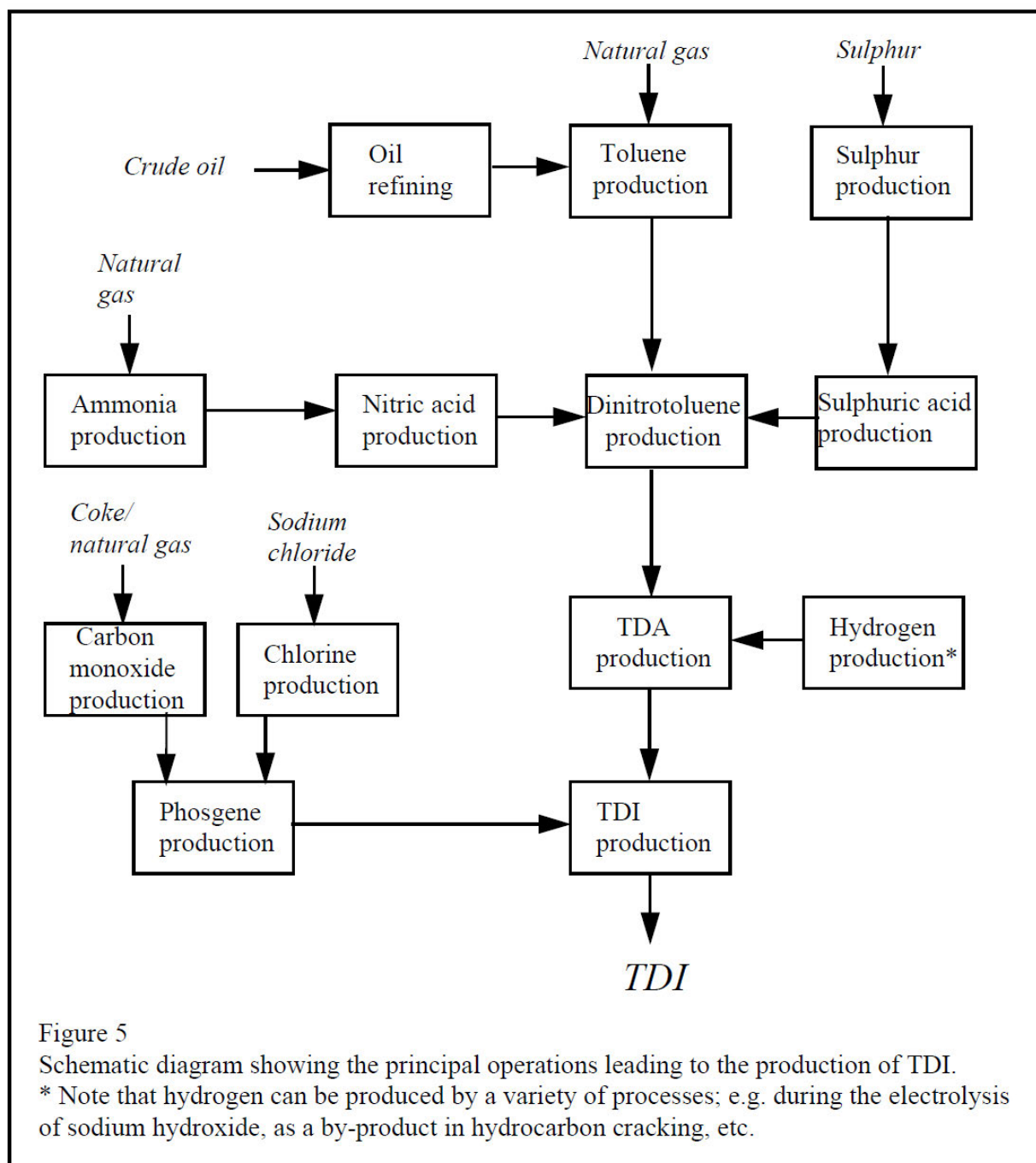
57. There are two primary ADIs: (1) MDI (methylene diphenyl diisocyanate) and (2) TDI (toluene diisocyanate).

58. MDI is a type of ADI used in combination with polyether polyols as a raw material for the production of flexible foams as well as semi-rigid and rigid polyurethane plastics. Its primary applications are construction, consumer appliances, automotive components and shoe soles. The diagram below shows the methods by which MDI is produced.



59. TDI is another type of ADI used in combination with polyether polyols as a raw material for the production of flexible foams. Its main applications include mattresses and cushions for furniture, packaging foam, and automotive seating, among other applications.

60. The diagram below depicts how TDI is produced.



61. The term “MDI Products”, as used in this CAC, refers to MDIs manufactured and/or sold by the Defendants in this case.

62. The term “TDI Products”, as used in this CAC, refers to TDIs manufactured and/or sold by the Defendants in this case.

IX. THE MDI AND TDI MARKETS

63. The polyurethane market is a \$53 billion global market that is projected to grow 7% per year for the next decade.

64. During the Class Period, the largest manufacturers and sellers of MDIs were Defendants Wanhua, BASF, Covestro, Huntsman, Dow and Mitsui. MDI market shares in 2016 were as follows: Wanhua (28%, including shares of European subsidiary BorsodChem); BASF (21%); Covestro (19%); Huntsman (13%); Dow (9%); and Mitsui (less than 10%), which amounts to over 90% of the global MDI market.

65. During the Class Period, the largest manufacturers and sellers of TDIs were Defendants BASF, Covestro, Wanhua, Mitsui, and Dow. TDI market shares in 2016 were as follows: BASF (30%); Covestro (25%); Wanhua (13%, including shares of European subsidiary BorsodChem); Mitsui (8%); and Dow (less than 8%), which amounts to over 76% of the global TDI market.

66. MDIs and TDIs are highly profitable, which is why they make up a large segment of the Defendants' overall business. For example, Covestro reported in its 2016 Annual Report that 6.1 billion euros, or 50% of Covestro's sales, were attributed to its Polyurethane segment consisting of MDIs, TDIs and polyols. Similarly, in its 2016 Annual Report, Huntsman stated that "[i]n 2016, our MDI EBITDA increased by 9%." In February of 2017, BASF reported that its operating profit was six billion euros and polyurethane was responsible for 9% of BASF's total sales of 70 billion euros, with TDI alone accounting for an estimated 5%. On November 15, 2017, Mitsui's CEO shared that "[p]rofits [are] expected to reach a record high in FY17 for the second consecutive year", with "Basic Materials" (which includes polyurethanes) accounting for 48% of Mitsui's total sales.

67. The global MDI industry has doubled in size during the last decade or so. The industry produced 3.3 million metric tons in 2005, 4.4 million metric tons in 2010, and then ballooned to 6.4 million metric tons by 2016. Much of this growth was driven by global megatrends in the energy management, food preservation, demographics and transportation sectors.

68. In 2013, the global production capacity for TDI was estimated to be 2.98 million metric tons.

69. Covestro's 2015 Annual Report projected that demand for MDIs would increase from 5.710 kt in 2014 to 7.990 kt in 2020, a 5.8% increase in compound annual growth rate ("CAGR"). The report also projected that demand for TDIs would increase from 2.240 kt in 2014 to 2.980 kt in 2020, a 4.8% growth in CAGR. As discussed in more detail below, while demand for both MDI and TDI in North America has increased in recent years, the annual level of growth for the former has stabilized and the annual level of growth for the latter has declined.

70. MDI and TDI supplies in the United States were stable in the years leading up to the conspiracy period. In September of 2014, ICIS observed that MDI prices in the United States were "steady, amid balanced supply and demand. No pricing announcements have been heard, suggesting prices will remain[] stable into October". Indeed, prices for MDI and TDI products remained relatively stable or declined immediately before the Class Period.

71. During the Class Period, Defendants manufactured and/or sold MDI and TDI products throughout the United States.

72. At all relevant times, Defendants had substantial market power with respect to MDI and/or TDI products. During the Class Period, Defendants exercised this power to maintain supracompetitive prices for MDI and TDI products without losing so many sales as to make the elevated price unprofitable.

73. During the Class Period, Defendants sold MDI and/or TDI products at prices in excess of marginal costs, in excess of a competitive price, and enjoyed high profit margins.

X. HISTORY OF COLLUSION BY DEFENDANTS

74. As noted above, this is not the first time that several of the Defendants have faced liability for price-fixing with respect to chemicals used in making polyurethane.

75. In March of 2004, Crompton Corporation (“Crompton”), now known as Chemtura Corporation, announced that it had entered into a plea agreement with the DOJ. It pled guilty to criminal charges of fixing prices for rubber chemicals and paid a \$50 million fine. *United States v. Crompton Corp.*, No. CR 04-0079 MJJ (N.D. Cal.). Crompton thereafter received conditional amnesty from the DOJ in connection with its investigation into price-fixing of urethane products.

76. As a result of cooperation from Crompton, the DOJ filed a criminal information against Bayer on September 30, 2004, alleging participation in a price-fixing conspiracy with respect to aliphatic polyester polyols, a compound used in the making of polyurethane. *United States v. Bayer Corp.*, No. CR 04-0318 VRW (N.D. Cal.). On May 24, 2005, Bayer agreed to plead guilty to a criminal conspiracy to fix the prices of such polyester polyols from 1998 to 2002, and paid a \$33 million fine.

77. In 2005 and 2006, the DOJ commenced criminal investigations against Dow, BASF, Huntsman, and Lyondell Chemical Company (“Lyondell”) (now LyondellBasell). No charges resulted from those investigations.

78. The Crompton and Bayer guilty pleas led to the filing of various class actions involving polyester polyols that were centralized by the Judicial Panel on Multidistrict Litigation (“JPML”) in the District of Kansas. *In re Urethane Antitrust Litig.*, 333 F.Supp.2d 1379 (J.P.M.L. 2004). The defendants named in these actions included Bayer, Chemtura, Dow, BASF and Lyondell.

79. In 2005, additional class cases were filed that alleged price-fixing conspiracy claims against Bayer, Chemtura, Dow, BASF and Lyondell for a price-fixing conspiracy as to MDI, TDI, and polyether polyols. After the JPML sent these cases to the district court in Kansas, the two sets of cases proceeded on distinct tracks except for discovery.

80. The evidence of a price-fixing conspiracy in these cases was considerable. In denying a motion for summary judgment, the district court found that the alleged conspiracy was confirmed by “direct evidence of an agreement, in the form of admissions by persons with knowledge of the agreement.” *In re Urethane Antitrust Litig.*, 913 F. Supp. 2d 1145, 1154 (D. Kan. 2012). For instance, one former Dow executive testified in his deposition that “on more than ten occasions, [another Dow executive] stated that he had met with competitors Bayer and BASF and reached agreements to set prices and make price increases stick.” *Id.* at 1153. Bayer’s former head of polyurethanes testified in his deposition “about various conversations with his competitors in which the participants discussed future pricing, their companies’ intent to raise prices, and the need for competitors to support their price increases.” *Id.* at 1154-55. He further testified that these conversations included Anthony Hankins (“Hankins”), who still serves as Huntsman’s Division President for Polyurethanes. *Id.* at 1155. Following one price increase by Dow, a BASF executive “placed eight calls to Mr. Hankins of Huntsman. The following day, BASF and Huntsman announced price increases identical to Dow’s increase.” *Id.*

81. The evidence presented in *Urethanes* also shows the lengths to which the Defendants went to conceal their unlawful conduct. For instance, executives of the defendants in that case (some of whom are among the Defendants here) placed calls with prepaid cards from gas-station pay phones and took steps to “avoid listening devices” when meeting in person by going outside. *Id.* at 1156. When meeting with a Bayer executive, Huntsman’s Hankins, promised

to destroy a shared pricing document and both men omitted any discussion of pricing from their reports on the meeting. *Id.*

82. All of this is significant because from the evidence uncovered so far, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

83. The polyester polyol cases resulted in settlements and did not go to trial. Similarly, plaintiffs in the polyether polyol cases settled with Bayer, BASF and Huntsman for a total of \$140 million. The case went to trial in 2013 against the lone remaining defendant, Dow. A five-week trial resulted in a \$400 million verdict for plaintiffs. After trebling, assessment of costs, and a setoff from the settlements, the judgment was entered for \$1.06 billion. In the *Urethanes* decision cited earlier, the United States Court of Appeals for the Tenth Circuit affirmed that judgment. In February of 2016, Dow settled the case for \$835 million.

XI. [REDACTED]

[REDACTED]

84. [REDACTED]

[REDACTED]

85. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

27

89. [REDACTED]

91. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

94.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

95.

[REDACTED]

[REDACTED]

[REDACTED]

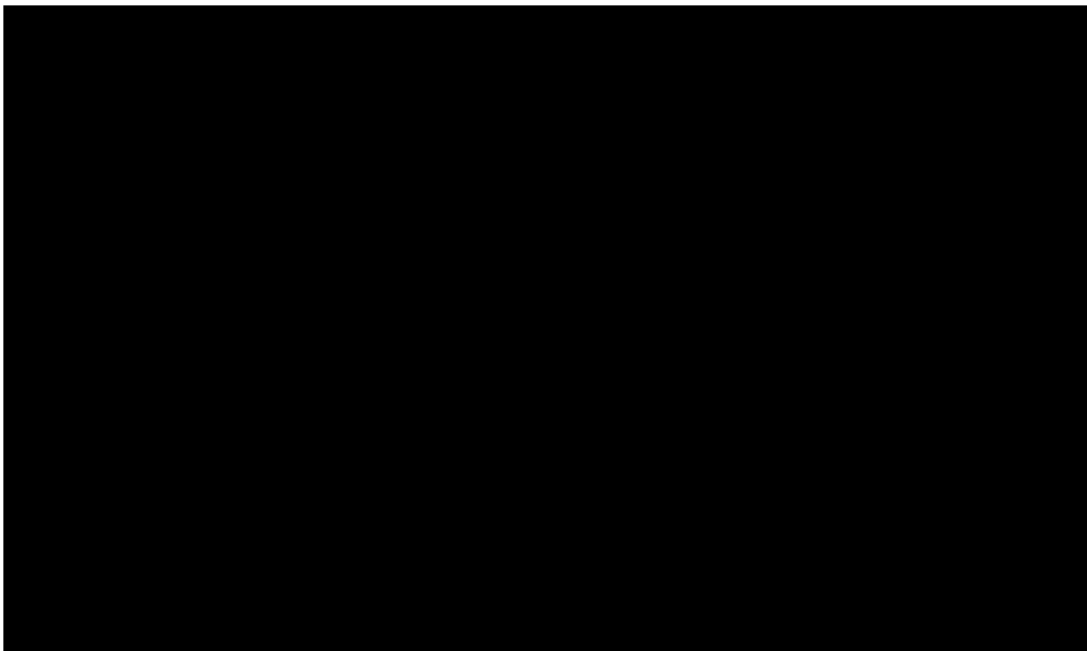
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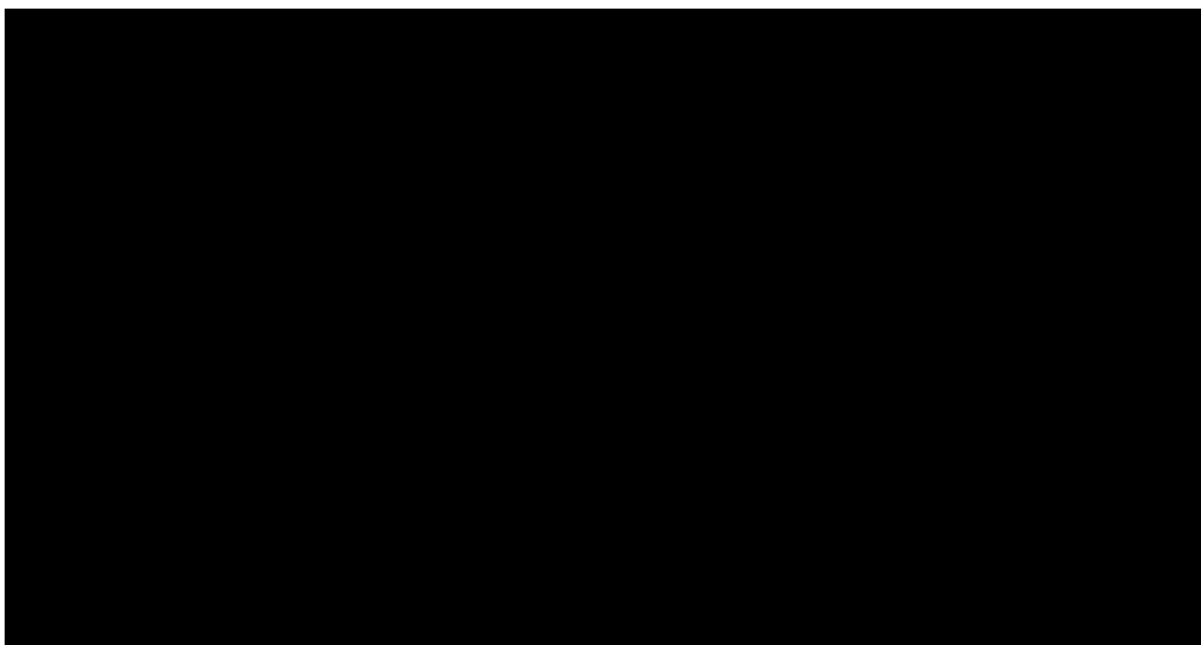
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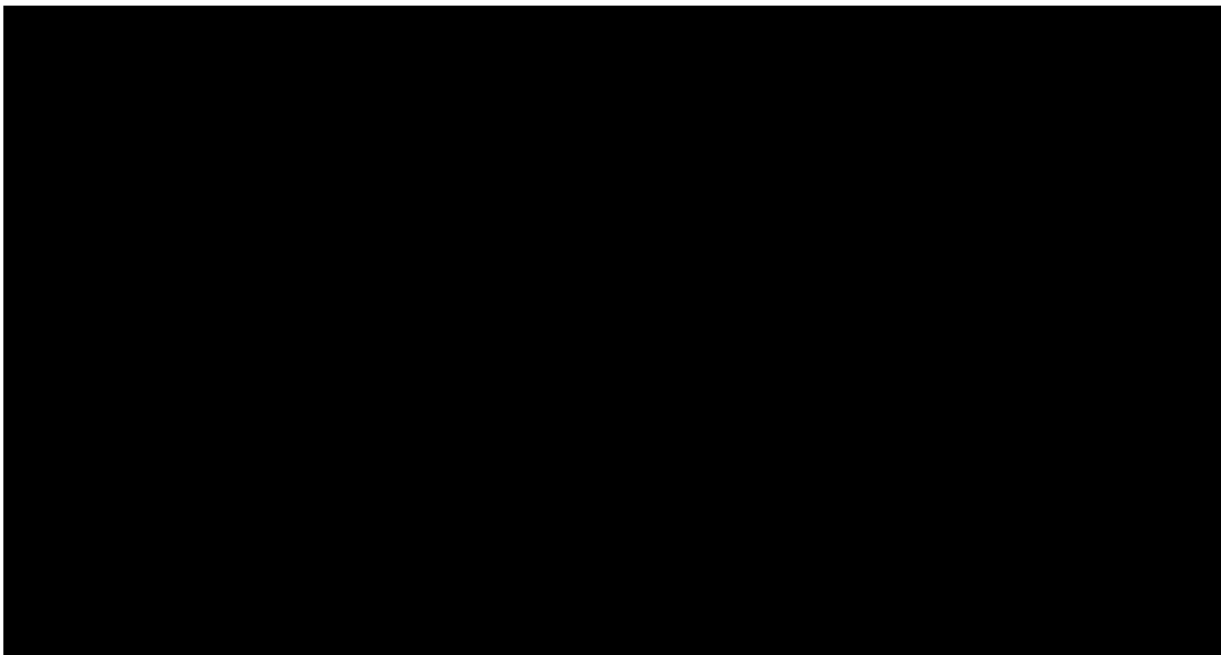


97.



98.





99. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

100. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

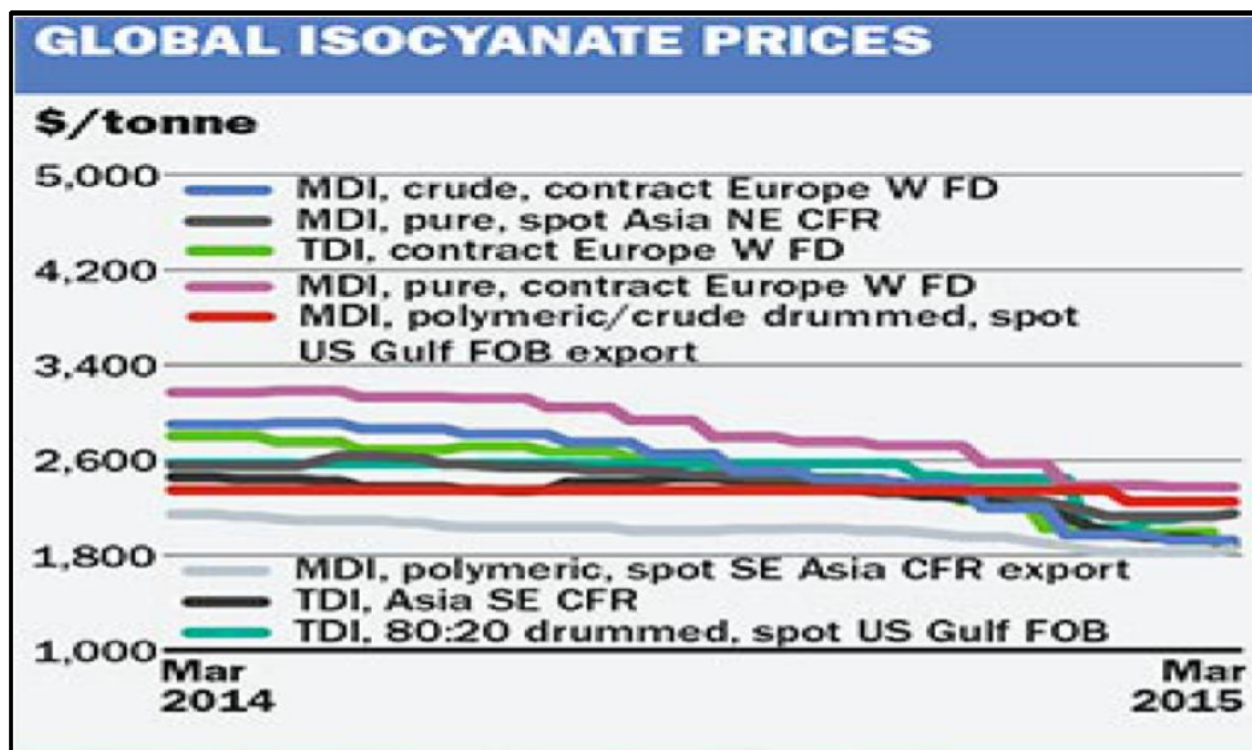
XII. DEFENDANTS ENGAGED IN LOCKSTEP PRICE INCREASES THAT LASTED FOR AN UNPRECEDENTED PERIOD AND RESULTED IN HISTORICALLY HIGH PRICES FOR MDI AND TDI PRODUCTS

103. Defendants have engaged in a series of lockstep price increases for MDI and TDI products that have stuck for an unprecedented long period of 2-1/2 years and counting. Based on the limited pricing information currently in Plaintiffs' possession, MDI prices increased from 134 cents per pound in December of 2016 to 187 cents per pound in April of 2018—a 40% increase. Similarly, TDI prices increased from 136 cents per pound in July of 2016 to 265 cents per pound in April of 2018—a 95% increase.

104. Indeed, prices of MDI and TDI products commenced an upward trajectory in 2016 that is ongoing and is in stark contrast to pre-conspiracy prices in 2013-15. The charts below compare and depict the stark contrast between pre-conspiracy and conspiracy MDI and TDI pricing trends between those two respective periods:⁴

⁴ As the pre- and post-Class Period charts found online are graphed in different units—*i.e.*, \$/tonne and cent/lb—converted data for the starting and ending points of the conspiracy period chart is provided as follows: TDI cost around \$2,998.28/tonne on June 1, 2016 and around \$4,960.40/tonne

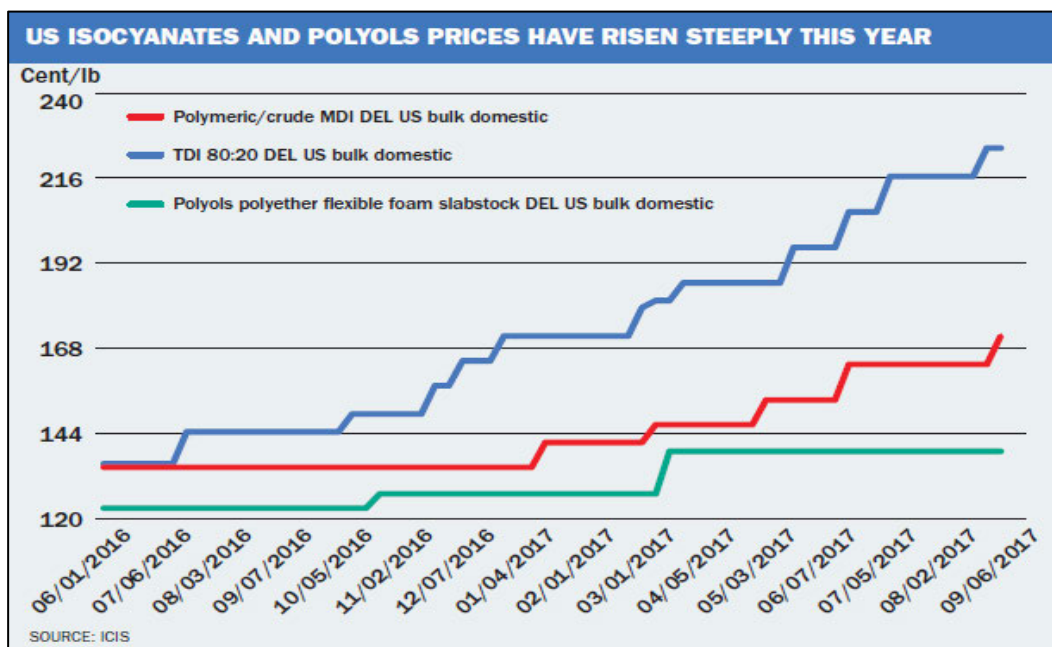
Prices of MDI and TDI Products in Pre-Class Period (2014-15)



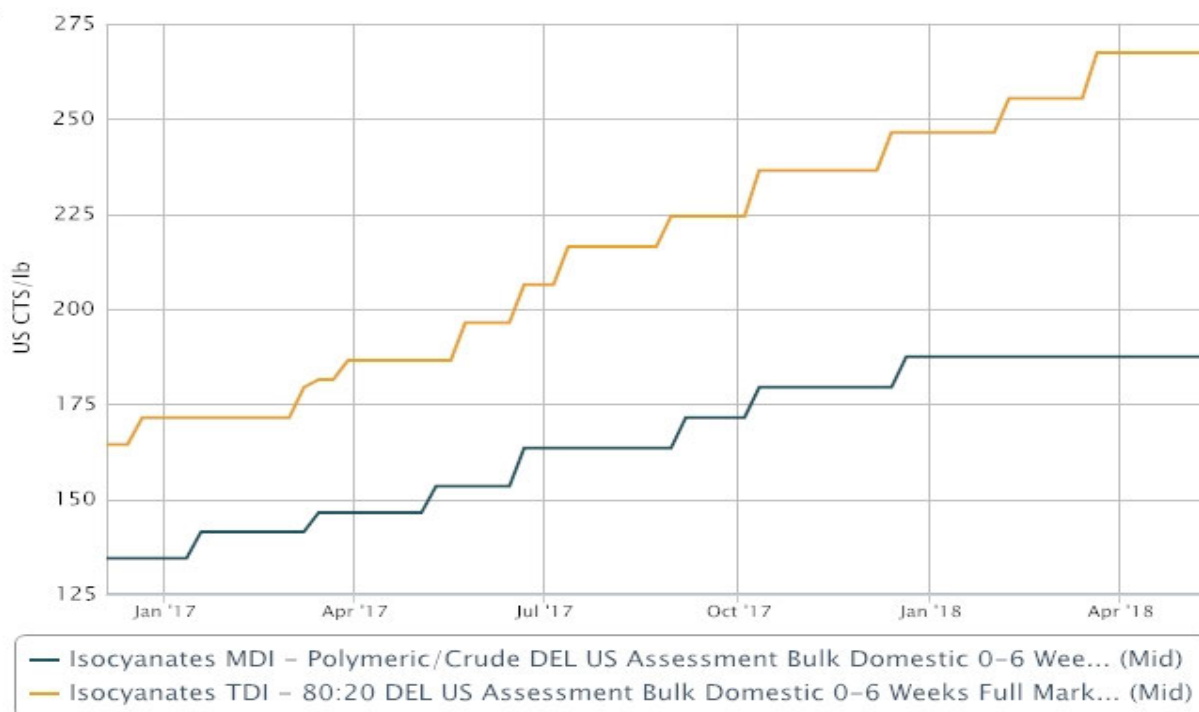
As can be seen from this chart, TDI and MDI prices *declined* in 2014-15 due to lower prices of component materials, such as benzene and oil. Plaintiffs will investigate whether TDI and MDI prices actually stabilized in 2015, and would have continued their dramatic downward trend throughout 2015 and been lower than they were but for the Defendants' conspiracy.

on September 6, 2017; MDI cost around \$2,976.24/tonne on June 1, 2016 and \$3,747.85/tonne on September 6, 2017.

Prices of MDI and TDI Products During the Class Period (2016-17)

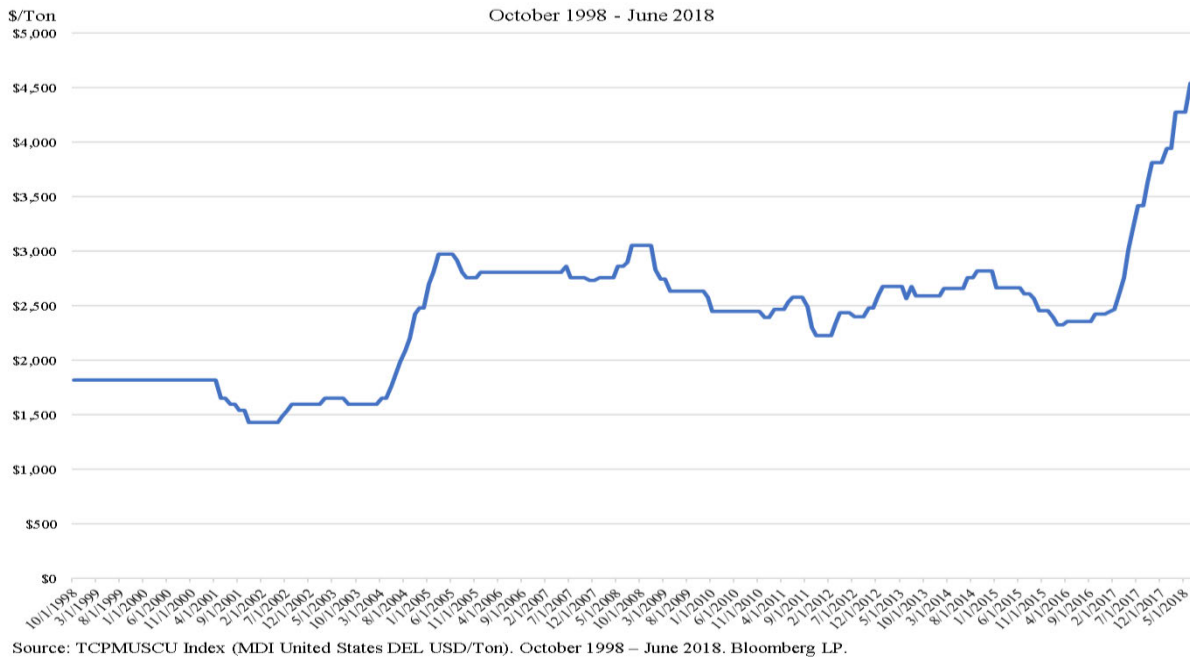


105. The following chart shows MDI and TDI price increases from January of 2017 through April of 2018:

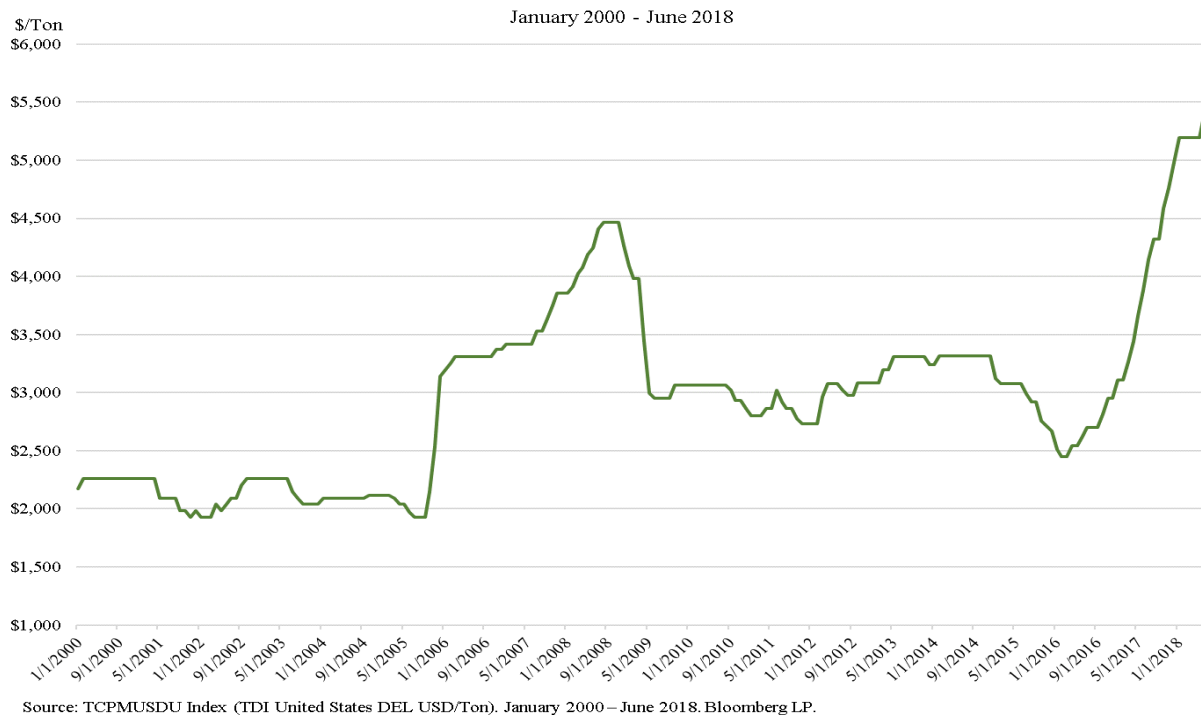


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106. The following chart, based on Bloomberg data, depicts the price per ton of MDI in the United States from October of 1998 through June of 2018.



107. The following chart, also based on Bloomberg data, depicts United States TDI prices (expressed in dollars per ton) during the same period:



108. A breakdown of the actual price increase data and effective dates is contained in the chart below compiled [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]
■ [REDACTED] ■ [REDACTED] ■ [REDACTED]	■ [REDACTED] ■ [REDACTED] ■ [REDACTED] ■ [REDACTED] ■ [REDACTED]	■ [REDACTED] ■ [REDACTED] ■ [REDACTED] ■ [REDACTED]
■ [REDACTED] ■ [REDACTED] ■ [REDACTED]	■ [REDACTED] ■ [REDACTED]	■ [REDACTED]
■ [REDACTED] ■ [REDACTED] ■ [REDACTED]	■ [REDACTED] ■ [REDACTED] ■ [REDACTED]	■ [REDACTED]
■ [REDACTED] ■ [REDACTED] ■ [REDACTED] ■ [REDACTED]	■ [REDACTED] ■ [REDACTED] ■ [REDACTED] ■ [REDACTED]	■ [REDACTED]
■ [REDACTED]	■ [REDACTED] ■ [REDACTED] ■ [REDACTED]	■ [REDACTED]
	■ [REDACTED]	■ [REDACTED]
	■ [REDACTED] ■ [REDACTED]	
	■ [REDACTED] ■ [REDACTED] ■ [REDACTED]	
	■ [REDACTED]	

⁵ Huntsman has not released information on specific relevant price increases during the last few years (except for the one from July 1, 2018 noted in the chart), but its earnings reports for 2016, 2017 and 2018, as well as its Annual Report for 2017 indicate that it increased prices on MDI sold in the United States and earned increased revenues as a result. Both in timing and amount, these price increases matched what the rest of the industry did. The same applies to Defendants Covestro, Bayer and Mitsui with respect to both the MDI price increase chart and the TDI price increase chart shown further below. As for the TDI chart, Huntsman ceased marketing TDIs in 2005, when it sold that business to BASF. While nearly all of Covestro's and Huntsman's price increases were not publicly announced, [REDACTED]

As apparent from this chart, Defendants implemented their price increases in close proximity to one another's, mostly ranging from a couple of weeks to announcements made on the same day. Notably, the amount of their price increases was either identical or nearly identical.

109. Below is a chart containing actual price increase data and effective dates compiled

[illegible]

Once again, Defendants implemented their TDI price increases in close proximity, ranging largely from a couple of weeks to announcements made on the same day. The amounts of Defendants' price increases were either identical or nearly identical.

110. Thus, according to a January 2018 report by ICIS, “isocyanate buyers ...[are left with] little alternative but to accept consecutive rounds of price increases, with some sellers heard to have taken a ‘take it or leave it’ attitude towards their price increase initiatives, which would normally be at least partially negotiable.”

111. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

112. Defendants have recognized these climbing prices and have sometimes presented misleading public statements about their eventual decline. For example, during a conference call with financial analysts on February 23, 2018, Huntsman’s CEO Peter Huntsman stated that he expected MDI prices to drop in the coming months, unless something unforeseen happened. This statement proved to have been misleading however, as MDI and TDI prices continued to rise into mid-2018 and no unforeseen event caused these increases.

113. Defendants are well aware that tightened supply resulted in higher profits. On February 27, 2018, Hans-Ulrich Engel, the Vice-Chairman of the Board of Executive Directors and CFO at BASF, stated in an investors’ call that “significantly higher prices, especially for MDI and TDI, drove this [sales] growth,” explaining that the cause of the increased prices was “due in part to turnarounds and the *force majeure* at our Chongqing plant caused by a natural-gas supply-shortage at our syngas supplier.”

114. In that same call, former BASF CEO Kurt Bock confirmed that the temporary shutdown of the Chongqing plant “certainly ha[s] some double-digit EBIT impact.” He further

commented that supplier issues on the U.S. Gulf Coast had also impaired production volumes, which he described as “again a double-digit impact.”

115. Wanhua stated in its 2017 annual report that, “[i]n 2017, with the recovery of the global economy, MDI was in high demand. At the same time, as many MDI installations were not functioning properly around the world, the supply of MDI was reduced, resulting in increasingly heightened conflicts between supply and demand. The price of MDI rose continuously.”

116. [REDACTED]

117. [REDACTED]

118. As another example, a representative of Covestro stated in its Q3 2016 public earnings call, “[w]e believe that our industry should continue to benefit from a structural upward trend at least until the end of the current decade...we still assume that demand growth [in the MDI and TDI markets] will outstrip supply additions until 2020.” [REDACTED]

119. No economic factors justify these huge, sustained price increases.

120. **Demand** as measured by housing starts, automobile sales, furniture sales, and TDI exports, does not explain the recent escalation in prices of MDI and TDI. There is no indication of

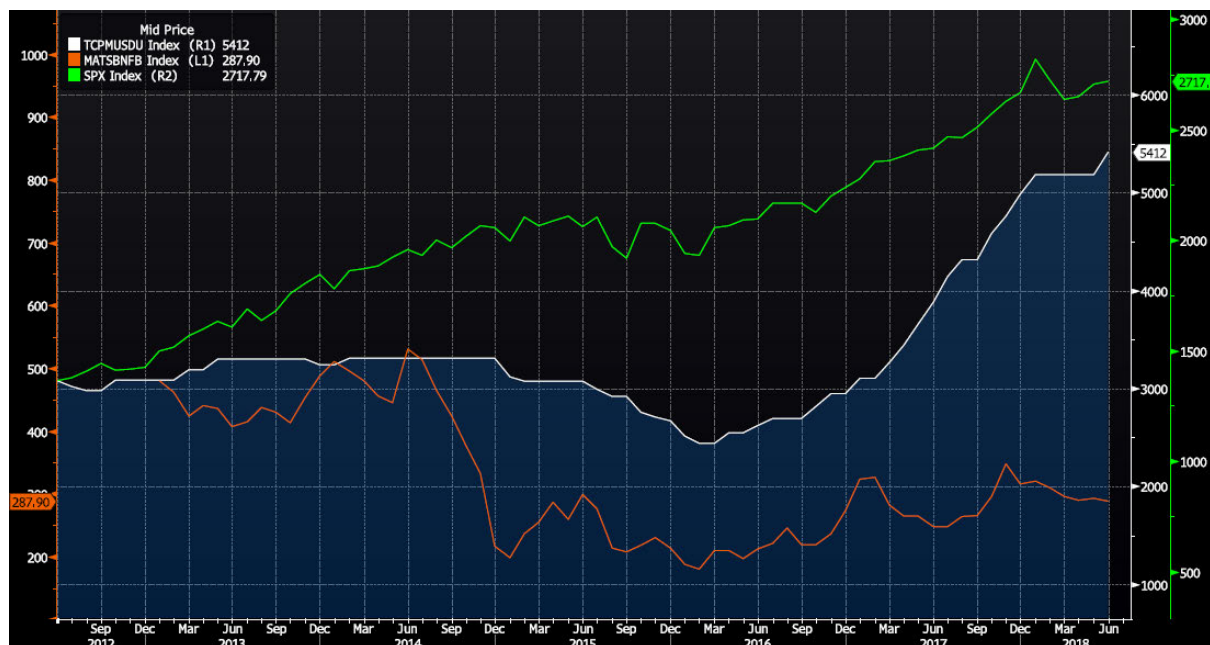
substantial increases in demand during 2016-18. Moreover, the rate of growth in demand during 2016-18 is similar to the rate of growth that was already in place during 2014-15. Thus, there are no unusual increases in demand that would explain these substantial MDI and TDI price increases.

121. **Costs** also do not account for these price increases. As noted in the diagrams below, crude oil prices are highly correlated with the two cost factors relevant to MDI and TDI prices—benzene and toluene. Crude oil prices were generally flat between the middle of 2016 and late 2017, despite substantial increases in MDI and TDI prices. During 2016-18, the rate of increase in MDI and TDI prices substantially exceeded the rate of increase in crude oil prices. ICIS press releases regarding benzene and toluene also do not indicate any substantial cost increases that would explain the substantial recent increases in MDI and TDI prices.

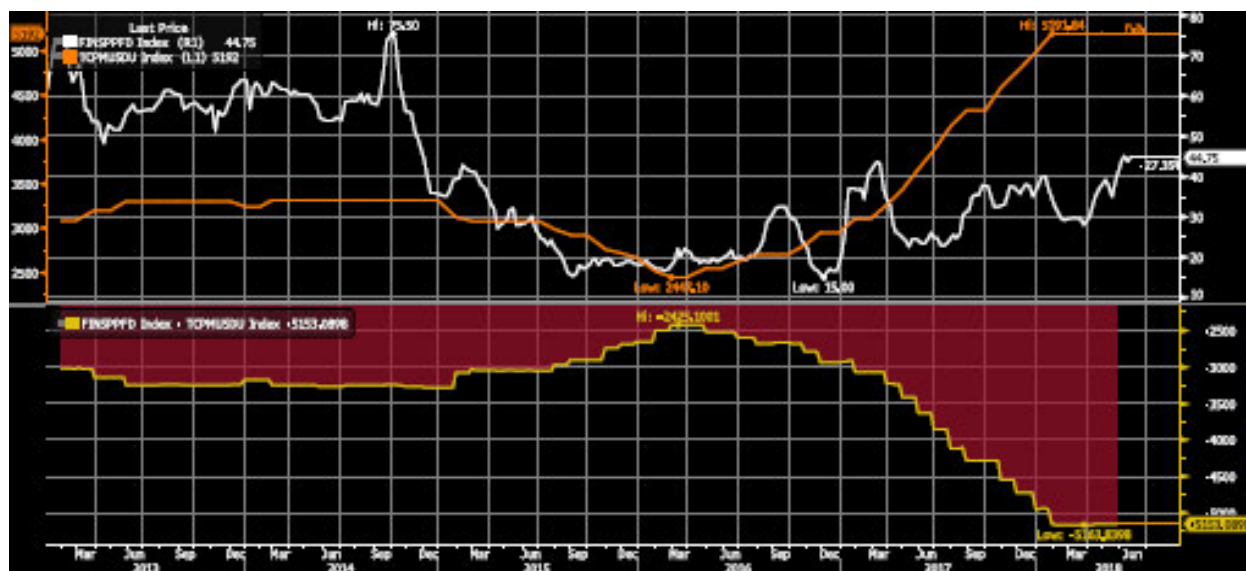
122. The spread between United States benzene prices and MDI or TDI prices from 2013 through mid-2018 is reflected in the following charts, based on Bloomberg data:



The spread between TDI and benzene prices is shown in the following chart:



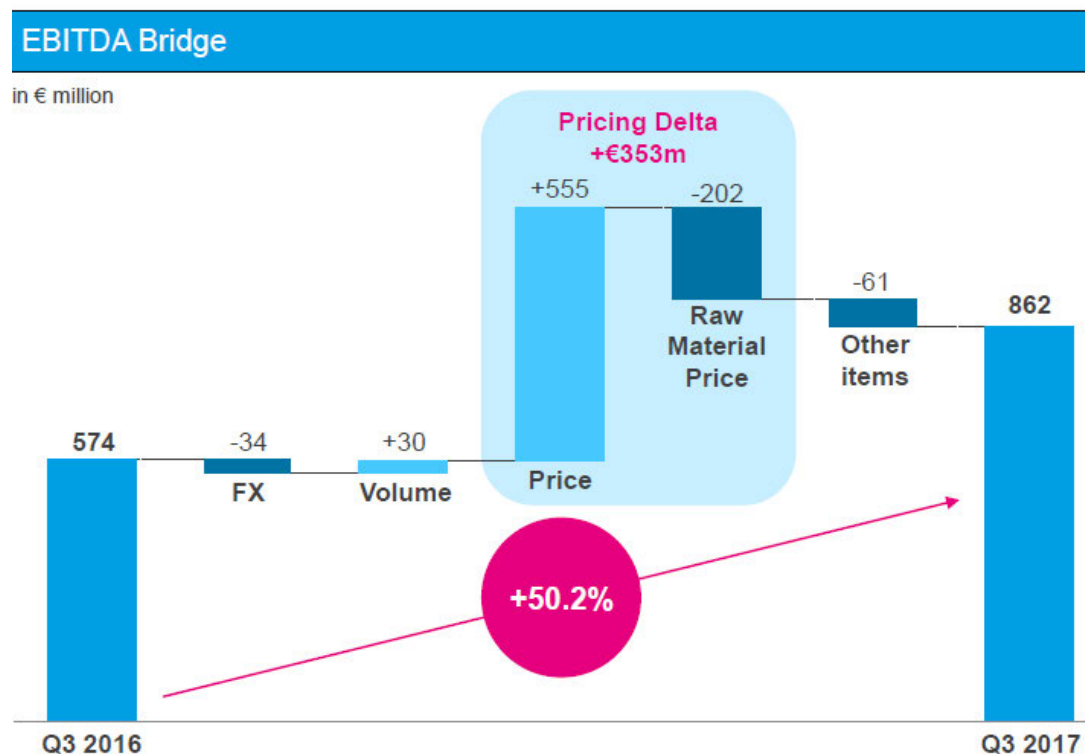
123. The Bloomberg data depicts a similar spread between United States TDI prices (reflected by the orange TDI index line in the following chart) and propylene prices (reflected by the white index line in the following chart):



124. Defendants' own public statements confirm that increased component costs are not the reason for the recent price increases in MDI and TDI. Covestro's CEO commented during

an interview in October 2016 that “[r]aw material prices have been dropping and are now at a low level, so the margin expansion to some extent has come from relatively stable pricing but reducing raw material costs.” Similarly, Peter Huntsman, President, CEO and Director of Huntsman, stated during an investor’s call on July 28, 2016 that the improvement in Huntsman’s margins has partly been driven by a “20% drop in benzene raw material costs and so forth. So I think it’s a combination both of raw material benefits and also moving further downstream and improving margins there.” When asked if he expected to see greater pressure from competitors due to dropping raw material costs, Mr. Huntsman responded, “[n]ot really. We’re looking at capacities in Europe and the Americas in the mid 90%. I don’t see that the market is sloppy enough to be giving away raw material fluctuations and so forth. So, no, I don’t see that at this point.”

125. Covestro’s 2017 presentation explained that the increase in raw material costs was not the cause of skyrocketing TDI and MDI prices but rather, the positive pricing delta was driven by TDI and MDI prices:



As noted in Covestro's 2017 Presentation document, "[s]elling price increases could more than compensate for higher raw material prices."

126. A China International Capital Corporation Limited ("CICC") results preview of Wanhua dated January 18, 2017 reported that MDI prices had risen to record highs amid tight supply, noting that the "price of pure MDI now stands at Rmb 25,000/tonne, up 71% year on year and that the price of polymerized MDI is Rmb 25,000/tonne, up 127% year on year. On the contrary, the prices of main raw materials have increased by less than 50%." Observing that the MDI prices and raw material prices had a spread of Rmb 16,900/tonne, CICC concluded that "MDI profitability is at a historical high."

127. As a result of Defendants' unlawful price-fixing conspiracy, Defendants reaped enormous profits from the supracompetitive prices of MDI and TDI products sold.

128. In 2016, Huntsman touted in its Annual Report that "[w]e strengthened our balance sheet by repaying \$560 million debt" and "our MDI EBITDA increased by 9%" in 2016.

129. According to its "Chemicals Report" dated March 31, 2017, Mitsui's "Basic Materials" business segment (which includes polyurethanes) had lost 16.5 billion yen in fiscal year 2013 compared to fiscal year 2016, in which that same segment brought in 38.5 billion yen of operating income. Further, in a document titled "CEO Explanation" dated November 15, 2018, Mitsui's President and CEO Tsutomu Tannowa shared that profits were expected to reach "a record high in FY18 for three consecutive years".

130. In its 2017 Annual Report, Huntsman remarked that "the increase in revenues in our Polyurethanes segment for 2017 compared to 2016 was primarily due to higher average selling prices...the increase in segment adjusted EBITDA was primarily due to higher MDI margins..." Huntsman further commented during its quarterly earnings call that

The increase in revenues in our Polyurethanes division for the three months ended December 31, 2016 compared to the same period in 2015 was primarily due to higher MDI average selling prices and higher MDI sales volumes. MDI average selling prices increased sharply in Asia primarily as a result of a competitor's outage. MDI sales volumes increased primarily due to higher demand in the Americas region. The decrease in adjusted EBITDA was primarily due to lower MTBE margins, partially offset by higher MDI margins and sales volumes.

131. [REDACTED]

[REDACTED]

[REDACTED]

132. In February of 2017, BASF reported that its operating profit was six billion euros and polyurethane was responsible for 9 percent of BASF's total sales of 70 billion euros, with TDI alone accounting for an estimated 5 percent.

133. Dow trumpeted in a 1Q 2018 earnings call that "Polyurethanes and CAV benefited from strong demand and price increases in downstream systems applications as well as from tight MDI fundamentals."

134. Wanhua too reported in its 2017 annual report that its PU series (consisting of MDI, TDI, and polyols) alone reeled in nearly 30 billion Rmb of operating income, an increase of 14.79 percent of its gross margin ratio for its PU series. Wanhua explained that "[d]uring the reporting period, the price of PU series products increased substantially year on year with sales volume increasing steadily, which resulted to a substantial rise in operating income."

135. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

136. Indeed, Covestro's 2017 Annual Report reveals that sales in the polyurethanes segment were up 29.2% year over year to 7,660 million euros (compared to 5,927 million euros in the previous year) "[t]hanks to an altogether advantageous supply/demand situation, higher selling prices in Polyurethanes resulted in sales growth of 26.9%."

137. Others also concurred with this analysis. According to an article published on Handelsblatt Global in February of 2017, the TDI market was experiencing an "unusual boom" with a price increase of approximately 60% since the beginning of 2016. The article noted that analysts estimate that manufacturers are able to achieve EBITDA margins of 50%.

**XIII. DEFENDANTS HAVE CREATED UNPRECEDENTED
SHORTAGES IN MDI AND TDI PRODUCTS WITH THE
INTENT TO DRIVE UP INDUSTRY-WIDE PRICES**

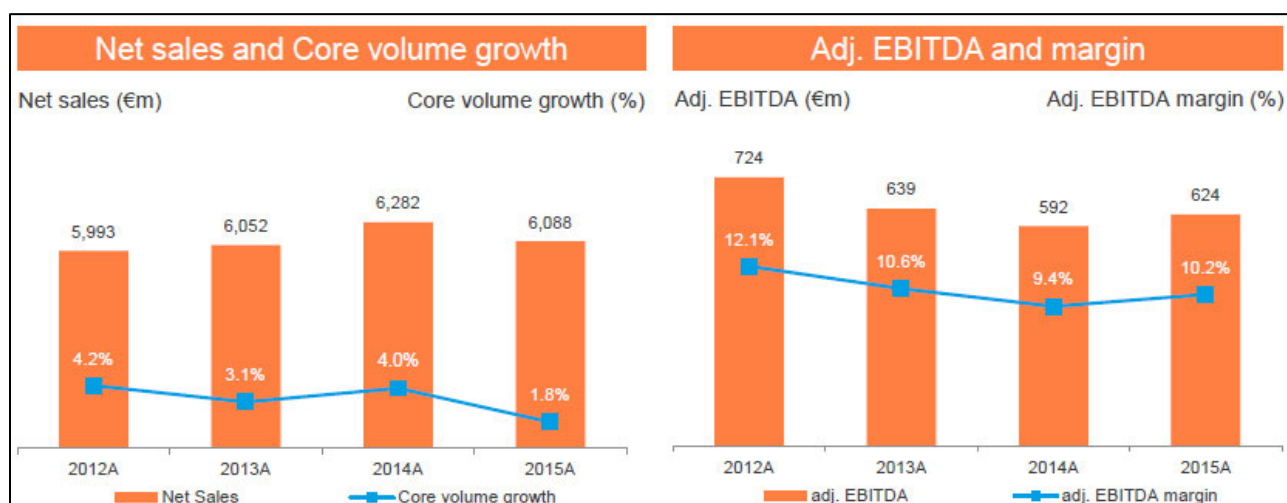
138. In 2016, the major companies in the MDI and TDI products industries again conspired to fix, raise, stabilize and maintain prices of MDI and TDI products sold in the United States, just as in the previous *Urethanes* case. As before, the conspiracy was accomplished through coordinated lock-step price increases as described above. This time however, the Defendants from *Urethanes*, with the addition of Wanhua and Mitsui, deliberately ceased MDI and TDI production and then used the resulting orchestrated production shortages to pretextually explain their price increases.

139. MDI and TDI pricing were relatively stable or falling in the years leading up to the start of the conspiracy.

140. By 2014, Defendants saw limited profits in MDI and TDI products due to an overabundance in the market that kept prices low. In 2015, Covestro explained in its Annual Report

that TDI prices decreased in 2014 partly due to “increased competition owing to higher product availability.” Furthermore, Covestro’s Investor Presentation document dated May 2016 revealed that “EBITDA [income with interest, taxes, depreciation and amortization added back in] margin [for MDI and TDI] bottom[ed] out in 2014; working on improving results”.

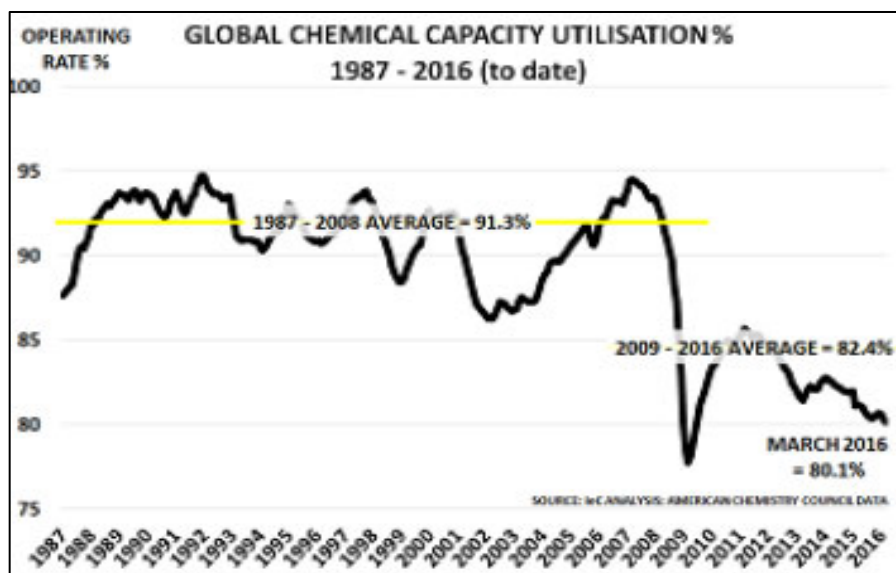
141. As demonstrated in the following graph generated by Covestro, as of 2014, an increase in core volume growth led to a decrease in its adjusted margin whereas a decrease in its volume growth in 2015 generated an increase in the company’s adjusted EBITDA margin:



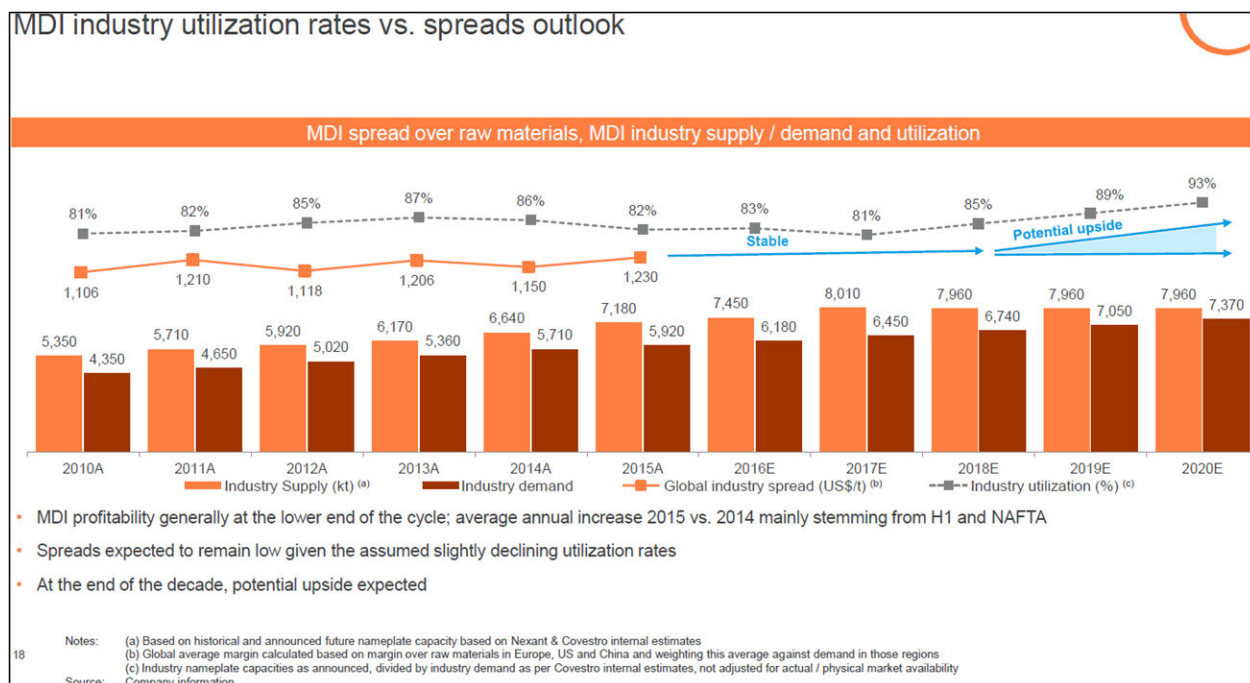
In other words, tightened supply led to higher margins.

142. This concept was not new to the chemical industry. As illustrated in the following chart, the average global chemical capacity utilization rate⁶ between 1987 and 2008 was 91.3%. That rate dropped to 82.4% between 2009 and 2016 and further decreased to 80.1% by March of 2016:

⁶ The capacity utilization rate measures the proportion of potential economic output that is actually realized.



143. The MDI and TDI utilization rates were consistent with this global trend. For example, the chart below, which was created by Covestro in 2016, shows MDI industry utilization rates that were largely in the low 80% range. The utilization rate reached its peak around 2013 and 2014 before dipping slightly back down to the low 80% level in 2015.



Remarkably, Covestro's chart, which contains data up to 2015, accurately predicted that the MDI industry's utilization rate would continue to decline into 2017, despite Covestro's forecast, also in

the same chart, that industry demand is expected to rise rapidly into 2020.

144. Defendants aggressively began to restrict supply of MDI and TDI products by cutting down their production output. This new practice was a sharp break from their past conduct.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Defendants explained each of these away with reasons including plant closures, FMs, suspended productions as well as plant operation at reduced capacity. The industry monitor *Polyurethane Daily* in July 2016 characterized these supply disruptions as a “tacit agreement on operation strategy” by manufacturers. [REDACTED]

[REDACTED]

[REDACTED]

145. Many of these “plant problem” announcements appear irrational and inconsistent. For instance, BASF spent a billion euros and prepared for years to plan, obtain permits, design, and construct the TDI plant (the “Ludwigshafen Plant”) in Rhineland Palatinate, Germany, which opened in November 2015. Since its opening however (which is shortly before the start of the Class Period), the BASF TDI plant hardly progressed beyond a brief trial operation period, with alleged “technical problems” repeatedly causing delays and shutdowns. The plant went completely out of commission in November of 2016, following a report of a phosgene gas leak. On February 15, 2017, BASF announced that although operations would resume, its projected production output of 300,000 tons of TDI will not likely be attained until 2018—nearly a year later— attributing the

delay to a defective phosgene reactor in the plant. Nearly a year and a half after that announcement, the Ludwigshafen Plant is still operating at reduced capacity; BASF has indicated that the reactor is scheduled to go into operation by the end of June. Industry reports indicated that issues at the Ludwigshafen Plant were “instrumental in maintaining supply tightness in the market and driving up pricing.” BASF’s handling of its so-called “technical problems” at its Ludwigshafen Plant are against its independent business interests because a rational business would not take nearly a year and a half to replace a defective reactor after having invested one billion euros to construct the production plant.

146. As another example, on August 30, 2017, Covestro declared an FM on its MDI and TDI plants located in Baytown and Channelview, Texas due to flooding caused by Tropical Storm Harvey. These Texas facilities can produce 340,000 tonnes/year of MDI and 220,000 tonnes/year of TDI. Covestro did not lift its FMs until more than a month later for its MDI plants and until two months later for its TDI plants. This conduct is inherently suspicious since Huntsman confirmed on September 3, 2017 that “[a]ll Huntsman sites in the regions affected by Harvey weathered the storm safely, with no safety incidents to our associates....”

147. Similarly, in May of 2016, Mitsui permanently closed an MDI plant in Omuta, Japan. Given that it takes approximately seven years (and billions of dollars) to plan, obtain permits, design, construct and fully operate an MDI plant, Mitsui’s decision to shut down its plant in the face of escalating demand of MDIs was not a rational business decision; it can best be explained as being part of an unlawful conspiracy.

148. Covestro had also announced plans to close its MDI production facility in Tarragona, Spain in 2016. It suddenly changed its plans and announced in May of 2017 that it would continue running its Tarragona plant “based on the MDI demand improvement the last

years” and because the company was now able to secure a supply of the raw material chlorine. Notably however, Covestro’s general manager, Andrea Firenze, emphasized that the decision to suspend the plant closing by the end of that year was only temporary: “I want to emphasize the word suspend. We have been able to get access to the most important raw material, chlorine but the company hasn’t taken a final decision for MDI supply in the next years.” The notion that a rational business would consider completely shutting down its well-running MDI production facility at the height of MDI pricing and in the face of growing demand, is inexplicable.

149. The following charts summarize all publicly reported incidents of MDI/TDI plant closures, FMs, suspensions of production and reports of operation at reduced rates during the pre-conspiracy period (2012-2015) and conspiracy period (at least January 1, 2016 to present):

<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] 	<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] 		<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED]
	<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] 		<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED]
			<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]
<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] 	<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] 	<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]
<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] 	<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] 	<ul style="list-style-type: none"> ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] ■ [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

153. [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

154. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

158. As a direct result of the “production problems” in the Defendants’ MDI and TDI facilities, direct purchasers of MDI and TDI products around the globe, and specifically in the United States, faced a supply shortage that has been ongoing for over 2-1/2 years.

159. During an investor call in July of 2016, Huntsman’s CEO, Peter Huntsman, discussed the topic of MDI supply/demand balance and emphasized that he was talking about global capacity being utilized in the 80-90% range, and stated that meant they were “going to have opportunities to expand further [profit] margins, and so forth as we go throughout the year.”

160. As of 2016, Defendants used the tightened supply of MDI and TDI to justify their multiple rounds of lock-step price increases to customers worldwide, including those in the United States. This has caused the price of MDI and TDI products in the United States and elsewhere to skyrocket, and Defendants maintain their supracompetitive MDI and TDI prices at elevated levels to this day.

161. The unprecedented nature of a supply shortage of this duration is well depicted in an article published on *Rubber & Plastics News*, dated June 21, 2017 and titled “High diisocyanate prices could slow polyurethane growth”. There, Recticel’s managing director Olivier Chapelle

(“Chapelle”) commented, “The rise is completely unprecedented in amplitude and speed”, referring to the consistent increase in MDI and TDI prices over the prior 16-18 months caused by the prolonged supply shortage. Jon Cheele [(‘Cheele’)], managing director at Vita Cellular Foams, also commented, “We’ve been back in our records... We’ve never seen anything like this duration. We’ve seen these quantum of increases, but we’ve never seen these absolute prices before. We have found six-month spikes, six-month drops but nothing goes over a year.” (emphasis added).

162. Chapelle and Cheele’s concerns are echoed in an article published on September 18, 2017 by Joyce Grigorey (“Grigorey”) of Tecnon Orbichem. There, Grigorey observes that “[b]oth the MDI and TDI markets have been plagued by a series of planned and unplanned outages, as well as production disruptions, which have significantly tightened the global landscape and resulted in significant price increases globally.” Grigorey also emphasizes the unusualness of the “length and severity of the supply tightness.”

163. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

164. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

165. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

166. [REDACTED]

[REDACTED]

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[REDACTED]

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[REDACTED]

[REDACTED]

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168.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

XIV. TRADE ASSOCIATIONS AND INDUSTRY MEETINGS

169. As was the case in the prior polyurethane litigation, Defendants have ample opportunities to meet and collude with one another to fix, raise, stabilize and maintain elevated prices of MDI and TDI products by participating in various conferences, trade associations, seminars, workshops, dinners and meetings.

A. ISOPA

170. For example, Defendants BASF, Covestro, Dow, Huntsman and Wanhua (through its European subsidiary BorsodChem) were five of the six members of ISOPA, a European trade association for producers of diisocyanates. Their “Mission”, inter alia, consisted of:

- “ensure[ing] that all stakeholders can easily access accurate and up-to-date information on diisocyanates and polyols”;
- “[p]roduc[ing] statistics about the polyurethanes industry.”

During the Class Period, Defendants BASF, Covestro, Dow, Huntsman and Wanhua had the opportunity to meet and conspire to fix, raise, maintain, and stabilize prices of MDI and TDI products before, during and after their meetings related to ISOPA.

B. American Chemistry Council

171. During all relevant times, Defendants Covestro LLC, Bayer, BASF, Dow, Huntsman, Wanhua and Mitsui were members of the American Chemistry Council (“ACC”), whose mission is to “deliver value to our members through advocacy, using best-in-class member engagement, political advocacy, communications and scientific research.” Every year, ACC holds a number of events, including seminars, workshops, conferences, trade shows and dinners. Representatives of BASF, Covestro, Dow, Bayer, Huntsman, Wanhua and Mitsui had the opportunity to meet and conspire to fix, raise, maintain, and stabilize prices of MDI and TDI products before, during, and after such ACC related events.

C. International Isocyanate Institute

172. During all relevant times, Defendants Covestro LLC, BASF, Bayer, Dow, Huntsman, Wanhua, and Mitsui were members of the International Isocyanate Institute (“III”), whose aim is to promote the safe handling of MDIs and TDIs in the workplace, community, and environment. [REDACTED]

173. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[illegible]

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D. Polyurethane Manufacturers Association

174. During all relevant times, at least Defendants Covestro LLC, BASF and Huntsman were members of the Polyurethane Manufacturers Association (“PMA”), whose purpose is, among other things, “[t]o exchange and disseminate information among its members as to improvements, standards, processing of raw materials, and advancements in the economics relative to the polyurethane elastomer industry”. Representatives of BASF, Covestro LLC, and Huntsman had the opportunity to meet and conspire to fix, raise, maintain, and stabilize prices of MDI and TDI products before, during and after their meetings related to the PMA.

E. Diisocyanates Panel

175. During all relevant times, Defendants BASF, Covestro, Dow, Huntsman and Wanhua were the sole members of the Diisocyanates Panel (“DII Panel”). The DII Panel “sponsors research on MDIs and TDIs, monitors impending regulations, legislation, and other initiatives affecting the production or use of diisocyanates, and develops appropriate responses.” Representatives of BASF, Covestro, Dow, Huntsman, and Wanhua had the opportunity to meet and conspire to fix, raise, maintain, and stabilize prices of MDI and TDI products before, during and after their meetings related to the DII Panel. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

F. Center for Polyurethanes Industry

176. During all relevant times, Defendants BASF, Bayer, Covestro LLC, Dow, Huntsman, Wanhua and Mitsui were members of and have participated in the business of the Center for the Polyurethanes Industry (“CPI”) of the American Chemistry Council.

177. CPI covers all segments of the polyurethanes industry, including raw material producers, systems suppliers, processing machinery and equipment manufacturers, as well as users of polyurethane materials who manufacture flexible or rigid foams, coatings, adhesives, sealants or elastomers. Its purpose is “to promote growth of the North American polyurethanes industry through effective advocacy, delivery of compelling benefits messages demonstrating how polyurethanes deliver sustainable outcomes, and creation of robust safety education and product stewardship programs.”

178. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

179. Every year, CPI holds an annual conference called the Polyurethanes Technical Conference, which is the longest-running polyurethanes conference in North America and touts to be the “industry’s premiere polyurethane business and networking event.” As described by a conference attendee Paul Duffy during the 2014 Polyurethanes Technical Conference, “...this conference is the premiere event for polyurethane professionals to exchange information, brainstorm, recognize threats and so on.”

180. The 2015 Polyurethanes Technical Conference took place at the Gaylord Palms Hotel in Orlando, Florida from October 5-7, 2015 with pre-conference activities starting on October 4. Representatives of BASF, Covestro LLC, Bayer, Dow, Huntsman, Wanhua and Mitsui had the opportunity to meet and conspire to fix, raise, maintain, and stabilize prices of MDI and TDI products before, during and after their meetings, seminars, programs, workshops and other events offered at the 2015 Polyurethanes Technical Conference.

181. The 2016 Polyurethanes Technical Conference took place at the Hilton Baltimore in Baltimore, Maryland from September 26-28, 2016 with pre-conference activities starting on September 25, 2016. Among notable attendees were Richard Skorpenske of Covestro, Walter White of BASF (Conference Committee Chairman and Technical Manager at BASF), Tom Feige of Dow (Chair of CPI Steering Committee and Global Strategy Director for the Polyurethanes Business Unit at Dow), and Paul Mackey (Business Development Director at Huntsman Polyurethanes). During an interview at the 2016 Conference, Walter White of Defendant BASF, stated

The Conference really provides some world-class networking opportunities. I think the opportunity people most think of is the industry reception which will take place tonight, and it's a place where people can get together and reconnect with old friends and maybe make some new friends and really talk with industry professionals. There are some other networking opportunities that are probably a little bit less well known or a little bit less recognized. Those would be the meeting spaces outside of the presentations where between papers, folks can get together and talk and get to know each other. And then there are also networking opportunities as the suppliers and attendees of the show plan events and we can really get together and have little bit more informal discussions and get together and meet each other.

Representatives of BASF, Covestro LLC, Bayer, Dow, Huntsman, Wanhua and Mitsui had the opportunity to meet and conspire to fix, raise, maintain, and stabilize prices of MDI and TDI products before, during and after their meetings, seminars, programs, workshops and other events offered at the 2016 Polyurethanes Technical Conference.

182. The 2017 Polyurethanes Technical Conference took place at the New Orleans Marriott in New Orleans, Louisiana from October 2-4, 2017. As noted in the ACC Supplement prepared by ICIS for the 2017 Polyurethanes Technical Conference, one of the feature topics covered at the 2017 Conference concerned the supply shortage of MDIs and TDIs that drove up prices in 2016 and into 2017. Representatives of BASF, Covestro LLC, Bayer, Dow, Huntsman, Wanhua and Mitsui had the opportunity to meet and conspire to fix, raise, maintain and stabilize prices of MDI and TDI products before, during and after their meetings, seminars, programs, workshops and other events offered at the 2017 Polyurethanes Technical Conference. [REDACTED]

G. Spray Polyurethane Foam Alliance

183. During the Class Period, BASF, Dow, Huntsman and MCNS were members of the Spray Polyurethane Foam Alliance (“SPFA”), which represents itself as “the collective voice,

along with the educational and technical resource, for the spray polyurethane foam industry.” SPFA has “a strong relationship with the American Chemistry Council’s (ACC) Center for Polyurethanes Industry (CPI), along with the Sprayfoam Coalition. These groups have assisted the SPFA to better serve the spray polyurethane foam industry’s business needs on local, state, and national issues.” The SPFA Convention, called the SprayFoam Convention and Expo, was held annually at different locations throughout the Class Period.

184. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

XV. FACTORS INCREASING THE MDI AND TDI MARKETS’ SUSCEPTIBILITY TO COLLUSION

185. In the Urethanes case, the Court found that parties did “not dispute that the structure of the industry—a highly concentrated oligopoly with high barriers to entry and homogenous commodity products without close substitutes—was conducive to a price-fixing conspiracy. Thus, defendants [there] had a motive to enter into a price-fixing conspiracy. . . . Whether or not costs were increasing—that is, whether or not it would be difficult to stabilize prices—defendants would still have had a motive to fix prices.” Memorandum & Order at 9 (Dec. 18, 2012) in *In re: Urethane Antitrust Litig.*, No. 04-1616-JWL (D. Kan.) (ECF No. 2637). The situation has not changed.

186. Publicly available data on the MDI and TDI market in the United States establish that it is susceptible to cartelization by Defendants. Factors that make a market susceptible to collusion include: (1) a high degree of industry concentration; (2) significant barriers to entry; (3) inelastic demand; (4) the lack of available substitutes for the goods involved; (5) a standardized product with a high degree of interchangeability between the products of cartel participants; and (6) inter-competitor contacts and communication.

1. Industry Concentration

187. A high degree of concentration facilitates the operation of a cartel because it makes it easier to coordinate behavior among co-conspirators.

188. In the United States MDI and TDI markets, at the time of the conspiracy, the Defendants named here accounted for over 90% and 76% of the respective markets.

189. The Herfindahl-Hirschman Index (“HHI”) is a measure of industry concentration that economists often use to quantify the degree of market concentration. The DOJ considers an HHI value higher than 2,500 to be a highly concentrated industry. In 2015, the HHI for the United States MDI industry in 2015 was 2,639.

190. In a 2006 MDI Overview, an analyst at Deutsche Bank wrote: “[w]ith over 80 percent of global MDI capacity controlled by the “Big Four” producers (Bayer, BASF, Dow and Huntsman), MDI is a consolidated, well-disciplined market. While supply additions can be sizeable relative to existing capacity, suppliers show an increasing willingness to close non-competitive capacity ... and enter into product-sharing agreements where prudent to manage the timing of capacity additions...”

191. While the markets for MDI and TDI are sufficiently concentrated to facilitate collusion, the years of low and stable pricing in the market establish that the number of

manufacturers in the market was sufficient to drive competition. Absent collusion, prices would have remained at competitive levels.

192. Price increases cannot be explained by the exit of any of the MDI and/or TDI manufacturers, given there was none during the relevant time period.

193. Defendants have been able to maintain supracompetitive prices for MDI and TDI products without significant loss of market share to non-conspirators. In fact, Defendants' worldwide market share stayed stable, and nearly identical for Defendants in 2016 and 2017, indicating a lack of competition for business, and no effort to shift market share away from one another. Thus, Defendants have oligopolistic market power in the markets for MDI and TDI products.

2. Barriers to Entry

194. Supracompetitive pricing in a market normally attracts additional competitors who want to avail themselves of the high levels of profitability that are available. However, the presence of significant barriers to entry makes this more difficult and helps to facilitate the operation of a cartel.

195. There are significant capital, regulatory, and intellectual property barriers to entry in the MDI and TDI markets that make such entry time-consuming and expensive.

196. Start-up costs and regulatory oversight represent substantial barriers to entry in the MDI and TDI markets. As Rachel Uctas, a senior consultant focused on isocyanates at the consulting firm Tecnon OrbiChem, noted in 2016, "[i]ndeed, because MDI manufacturing is hard to master, the market is difficult to enter." For example, it took Wanhua, now the largest global producer of MDI, decades to reach that pinnacle. It opened an MDI manufacturing plant in Yantai, China in 1983 using technology licensed from Nippon Polyurethane Industry Company, but that facility was not fully operational until 1995. The plant was producing 220,000 metric tons of MDI

annually when it closed in 2014. Wanhua has partly grown by acquisition, obtaining operations in various countries, including the United States, where it has substantial MDI sales. In 2011, it paid \$1.7 billion to acquire the Hungarian polyurethane chemical producer, BorsodChem. In 2017, it announced plans to build an MDI production facility in Louisiana, at a cost of \$1.12 billion.

197. Similarly, a 2017 Huntsman presentation stated that construction of a new MDI production facility would take seven years from project start to beneficial operation.

198. According to a Deutsche Bank Market Analysis, the MDI market incurs “very high technical and capital barriers.” Due to the high reactivity of the chemicals used and processed, MDI plants must be specially designed to minimize contact with any input or output chemical, which may cost significantly more than other chemical plants

3. Demand Inelasticity

199. Price elasticity of demand is defined as the measure of responsiveness in the quantity demanded for a product as a result of change in price of the same product. It is a measure of how demand for a product reacts to a change in price. The basic necessities of life—food, water, and shelter—are examples of goods that experience nearly perfectly inelastic demand at or near the minimums necessary to sustain life. In other words, a person on the verge of dying of thirst will pay almost anything for water.

200. In order for a cartel to profit from raising prices above competitive levels, demand for the product must be sufficiently inelastic such that any loss in sales will be more than offset by increases in revenue on those sales that are made. Otherwise, increased prices would result in declining sales, revenues, and profits as customers purchased substitute products or declined to buy altogether. Inelastic demand is a market characteristic that facilitates collusion, allowing producers to raise their prices without triggering customer substitution and lost sales revenue.

201. Demand for MDI and TDI is highly inelastic. MDIs and TDIs are key chemical ingredients used in the manufacture of polyurethane, a versatile plastic material used in countless industries such as construction, appliances, electronics, automotive, clothing, packaging material, and so on. Because polyurethane cannot be made without MDIs and TDIs, purchasers have little choice but to purchase MDIs and TDIs at the price at which it is offered. This gives Defendants significant pricing power, as well as an incentive to collude. As noted above, one publication stated in 2018 that the persistent supply shortages and growing demand was leaving “isocyanate buyers ...[with] little alternative but to accept consecutive rounds of price increases, with some sellers heard to have taken a ‘take it or leave it’ attitude towards their price increase initiatives...”

202. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

203. Thus, MDIs and TDIs are excellent candidates for cartelization because price increases will result in more revenue, rather than less, provided that most or all manufacturers participate.

4. Lack of Substitutes

204. For the same reasons that MDIs and TDIs have demand inelasticity, there likewise are no viable substitutes to MDIs and TDIs. This lack of viable substitutes for MDIs and TDIs is evidenced by data showing that during the Class Period, purchasers of MDIs and TDIs did not

switch from MDIs or TDIs to another plastic material despite significant price increases. Rather, they paid for the inflated prices and overall demand in the industry continued to grow. Thus, purchasers of MDIs and TDIs were held captive to the supracompetitive prices that resulted from Defendants' conspiracy to fix prices, rig bids, and allocate markets and customers.

5. Standardized Product with High Degree of Interchangeability

205. A commodity-like product is one that is standardized across suppliers and allows for a high degree of substitutability among different suppliers in the market. When products offered by different suppliers are viewed as interchangeable by purchasers, it is easier for the suppliers to agree on prices for the goods in question and to monitor those prices effectively.

206. MDIs of the same chemical composition are effectively commodity products because the primary mechanism through which they compete is price. The same holds true for TDIs. In an article published in February of 2016, Dr. Kai Pflug confirmed that MDIs and TDIs are "commodity chemicals" whose global market prices are susceptible to "immense pressure" caused by competition from Chinese producers. Further confirming their interchangeable nature, there is little utility in attempting to distinguish the products based on quality, branding or detailing. Rather, the primary means for one manufacturer to differentiate its product from another's is through price competition. The need to compete on price can drive producers of commodity products to conspire—as they did here—to fix prices.

207. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

208.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

210.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

213.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

214. Defendants were interdependent on each other to hold and maintain the increases, and favored a price over volume strategy. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

215. The Tenth Circuit in *Urethanes* has already found in the prior litigation that this industry was “ripe for collusion”, that market power was “concentrated in the hands of only a handful of firms”, that “the market had high barriers to entry”, that the products at issue were “homogeneous”, and that there “were no close product substitutes available to consumers.” *Urethanes*, 768 F.3d at 1264. These factors have not changed.

6. Inter-Competitor Contacts and Communications

216. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

217. [REDACTED]

[REDACTED]

[REDACTED]

XVI. VIOLATIONS OF SECTIONS 1 AND 3 OF THE SHERMAN ACT

218. Beginning at least as early as January of 2016 until the present, Defendants and their co-conspirators engaged in a continuing agreement, understanding, and conspiracy of trade with respect to the sale of MDI and TDI products in the United States, its territories, and the District of Columbia in unreasonable restraint of interstate trade and commerce, in violation of Sections 1 and 3 of the Sherman Act, 15 U.S.C. §§1, 3.

219. The agreement, understanding or conspiracy consisted of an agreement among the Defendants and their co-conspirators to fix, raise, stabilize and/or maintain at artificially high levels the prices they charged and to allocate customers and markets for MDI and TDI products sold in or shipped to the United States, its territories and the District of Columbia.

220. In formulating and effectuating this conspiracy, Defendants and their co-conspirators did those things that they combined and conspired to do, including:

- (a) participating in meetings and conversations among themselves during which they agreed to restrict supply of MDI and TDI products, charge prices at certain levels, and otherwise to fix, increase, maintain or stabilize prices of, and to restrict capacity of, MDI and TDI products in the United States;
- (b) issuing price announcements consistent with, and selling MDI and TDI products at, the agreed upon prices; and
- (c) participating in meetings and conversations among themselves to implement, adhere and police the agreements they reached.

221. Defendants and their co-conspirators engaged in the actions described above for the purpose of carrying out their unlawful agreements to fix, maintain, raise or stabilize prices and to allocate customers and markets of MDI and TDI products.

222. During and throughout the period of the conspiracy alleged in this Complaint, Plaintiffs and members of the Class directly purchased MDI and TDI products at inflated and supracompetitive prices.

XVII. PRAYER FOR RELIEF

WHEREFORE, Plaintiffs pray as follows:

- A. That the Court determine that this action may be maintained as a class action under Rule 23 of the Federal Rules of Civil Procedure;
- B. That the contract, combination or conspiracy, and the acts done in furtherance thereof by Defendants and their co-conspirators, be adjudged to have been a per se violation of Sections 1 and 3 of the Sherman Act (15 U.S.C. §§ 1, 3);
- C. That judgment be entered for Plaintiffs and members of the Class against Defendants for three times the amount of damages sustained by Plaintiffs and the members of the Class as

allowed by law, together with the costs of this action, including reasonable attorneys' fees;

- D. That Plaintiffs and the Class be awarded pre-judgment and post-judgment interest at the highest legal rate from and after the date of service of this Complaint to the extent provided by law; and
- E. That Plaintiffs and members of the Class recover their costs of this suit, including reasonable attorneys' fees as provided by the law; and
- F. That Plaintiffs and members of the Class have such other, further or different relief as the case may require and the Court may deem just and proper under the circumstances.

DEMAND FOR JURY TRIAL

Pursuant to Fed. R. Civ. P. 38(b), Plaintiffs demand a trial by jury as to all issues so triable.

Dated: February 1, 2019

Respectfully submitted,

s/ William Pietragallo, II

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CERTIFICATE OF SERVICE

I hereby certify that on February 1, 2019, I electronically filed the foregoing with the Clerk of Court using the CM/ECF system which will send notification of such filing to all COUNSEL OF RECORD. I hereby certify that I served the foregoing on all COUNSEL OF RECORD by electronic mail.

s/ William Pietragallo, II

William Pietragallo, II

Interim Liaison Counsel