

e-Competitions

Antitrust Case Laws e-Bulletin

December 2021

The US District Court for the District of Delaware enters a federal jury's verdict sanctioning a company for committing antitrust violations under Sections 1 and 2 of the Sherman Act in the honeycomb carbon adsorbents scrubbers in fuel vapor canisters market (*BASF / Ingevity*)

PROCEDURES, AGREEMENT (NOTION), RELEVANT MARKET, TYING, JUDICIAL REVIEW, CONSTRUCTION, MARKET POWER, UNITED STATES OF AMERICA

US District Court for the District of Delaware, *BASF / Ingevity*, Case No. 18-1391-RGA, 15 September 2021

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e-Competitions News Issue December 2021

A recent BASF jury verdict highlights the breadth of the Sherman and Clayton Acts—particularly the remedies available to plaintiffs involved in the manufacturing of goods—if supply agreements are found to hinder marketplace competition. The verdict serves as an important reminder for automotive and other stakeholders to take care in drafting supply agreements to ensure that these contracts do not implicate—or violate—federal antitrust laws.

While the implications of this verdict will be widespread, they are likely to have a particular impact on the automotive and mobility sector. In that sector, supply chain stability is critical to the manufacturing and quality control processes. As such, long-term contract commitments are commonplace. Exclusive supply or purchase agreements can benefit market competition by establishing stable sales outlets, reducing contracting costs, and creating dealer loyalty. However, if an entity uses these supply agreements to impede the efforts of new firms from entering a market, smaller firms from expanding their market presence, or by tying the purchase of several items together as to result in limiting consumer choice, the entity may be subject to state and federal antitrust claims.

THE BASF JURY VERDICT

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A federal jury in the US District Court for the District of Delaware issued a verdict on September 15, 2021, in favor of the BASF Corporation and against the Ingevity Corporation and Ingevity South Carolina, LLC (collectively, Ingevity) for committing antitrust violations under Sections 1 and 2 of the Sherman Act (15 USC §§ 1–2) and Section 3 of the Clayton Act (15 USC § 14). The jury found that Ingevity’s long-term exclusive supply agreements, which obligated fuel vapor cannister manufacturers to purchase honeycomb carbon adsorbent scrubbers exclusively from Ingevity as a means of meeting new emissions regulations, amounted to an illicit tying agreement that was designed to exclude BASF from competing in the product market and allowing Ingevity to protect its monopoly power. The jury also found that Ingevity’s business practices tortiously interfered with BASF’s customer relationships. BASF was awarded \$84.9 million in trebled damages. BASF is currently seeking attorney fees, costs, and interest. On September 17, 2021, Ingevity expressed its intent to appeal the jury’s verdict to the US Court of Appeals for the Third Circuit—although no appeal has yet to be formally filed. Currently, the parties have agreed to stay the briefing on Ingevity’s Federal Rule of Civil Procedure Rule 50(a) motion for judgment as a matter of law in a jury trial.

Here, as further discussed below, the jury found that Ingevity had substantial market power related to the sale of honeycomb carbon adsorbent scrubbers, which the jury found negatively affected the entire tied market, and thereby excluded BASF, Ingevity’s only viable competitor, from competing in the market with its honeycomb carbon adsorbent scrubbers. A “tie” exists where a seller sells one product—the “tying” product—only on the condition that the buyer purchases another product—the “tied” product—or agrees not to buy the tied product from a different source. Tying arrangements are unlawful where the seller has appreciable economic power in the tying product market, and the arrangement affects a substantial volume of commerce in the tied market.

REGULATIONS IN THE RELEVANT GEOGRAPHIC MARKET: LOW EMISSION VEHICLE III/TIER 3 EMISSIONS STANDARDS IN THE UNITED STATES AND CANADA

In 2012, the California Air Resources Board (CARB) promulgated new emission standards for light-duty vehicles, which are known as the Low Emission Vehicle III program (LEV III). Two years later, the US Environmental Protection Agency (EPA) followed California’s lead and adopted a similar set of regulations known as the Tier 3 Motor Vehicle Emission and Fuel Standards program (Tier 3). Both LEV III and Tier 3 (collectively, LEV III/Tier 3 standards) seek to reduce motor vehicle emissions and have been modified to work in tandem to achieve this regulatory purpose. In 2016, Canada implemented its own motor vehicle emission reduction legislation that mirrors the LEV III/Tier 3 regulations in the United States.

While LEV III/Tier 3 standards curb vehicle emissions on several fronts, at issue here are the regulations that are applicable to diurnal breathing loss emissions (DBLs). Per the EPA, DBLs consist of evaporated gasoline emissions that are generated by fluctuations in vehicle and atmospheric temperatures, which build up when the vehicle is not operational. When the temperature of the gasoline increases in the fuel tank, gasoline vapors contained in the fuel tank and fuel vapor canister expand and can escape into the air.

Since LEV III/Tier 3 standards require “near-zero” DBLs that are emitted from the fuel tank, original equipment manufacturers (OEMs) needed to install bleed emissions control devices on new vehicles to capture the DBLs. LEV III/Tier 3 regulations also established new DBL testing procedures that measure DBLs without measuring “hot soak” and require that the emissions not exceed 0.020 g for light-duty vehicles and trucks or 0.030 g for heavy-duty vehicles. Per EPA and CARB guidelines, the phase-in schedule for the LEV III/Tier 3 regulations in the United States

requires 40% compliance by Model Year (MY) 2017, 60% compliance by MY 2018, 80% compliance by MY 2020, and 100% compliance by MY 2022.⁵ Canada follows a similar phase-in schedule, with 100% compliance required by MY 2022.

RELEVANT PRODUCT MARKET: HONEYCOMB CARBON ADSORBENTS SCRUBBERS IN FUEL VAPOR CANISTERS

In order to meet the “near-zero” DBL emissions requirement in LEV III/Tier 3 standards, OEMs modified their vehicles’ fuel vapor canisters to include more effective carbon adsorbents to capture the free-releasing gasoline vapors. Adsorption is the chemical process by which a molecule from a gas or liquid is attracted and attached to a material surface. Activated carbon products, aka carbon adsorbents, are used in fuel vapor canisters to adsorb the smog-forming hydrocarbons that would be emitted into the atmosphere in their absence. Activated carbon can be processed in two ways. The first and the more traditional method involves using a natural carbon source, such as wood chips, through chemical and/or thermal reactions to create nanoscale pores within the carbon. These fine pores facilitate the adsorption process. Ingevity’s honeycomb scrubbers are processed by using natural carbon sources, while BASF uses a synthetic source of activated carbon to create its honeycomb scrubbers.

Fuel vapor canisters use different types of carbon adsorbents, arranged in multiple “stages,” which are capable of satisfying varying degrees of emissions purity. The first stage adsorbent uses pelletized carbon, which is manufactured by shaping activated carbon into pellets that sit on the “carbon bed” of the fuel vapor canister and continuously adsorb automotive evaporative emissions [1]. Honeycomb scrubbers are second-stage carbon adsorbents that are installed at the outlet of fuel vapor canisters to trap bleed emissions, which allows OEMs to meet even stricter emissions standards. After the enactment of LEV III/Tier 3 standards, the demand for honeycomb scrubbers sharply increased in the United States and Canada.

The fuel vapor canister, and carbon adsorbent manufacturing process, is highly specialized with few market participants and has high barriers to entry. According to BASF, Ingevity has supplied 100% of the honeycomb scrubbers that were installed in fuel vapors dating back to 2015. Per BASF, fuel vapor canister manufacturers, which are Tier 1 manufacturers [2] in the automotive supply chain, may produce limited amounts of carbon adsorbents for its own internal captive use, but do not sell carbon adsorbents to OEMs. While other emission component manufacturers have the capability to produce competing carbon adsorbents, given Ingevity’s dominant market power, the limited potential to increase sales, and the ability of an untested product’s ability to meet LEV III/Tier 3 standards and do so over the life of the vehicle, BASF contended that it was the only other potentially significant manufacturer that can produce honeycomb scrubbers.

INGEVITY’S CARBON ADSORBENTS

Ingevity manufactures first and second-stage carbon adsorbents that are used in fuel vapor canisters, including pelletized carbon, granular carbon, and honeycomb scrubbers. Ingevity does not produce fuel vapor canisters. Fuel vapor canister systems are primarily manufactured by Tier 1 manufacturers. Therefore, Ingevity derived the majority of its profits through the sale of its carbon adsorbents to Tier 1 manufacturers, which produce the completed fuel vapor canisters and sell them to OEMs. In the US market, the largest Tier 1 manufacturers of fuel vapor canisters are Delphi Automotive Systems, LLC and MAHLE Filter Systems North America, Inc.

In this case, Ingevity asserted that BASF infringed on its assigned patent—US Patent No. RE38,844 (the ‘844 Patent) by developing a similar honeycomb scrubber. The ‘844 Patent is titled “Method for Reducing Emissions From Evaporative Emissions Control Systems.” At the time the application for the ‘844 Patent was filed, the

concern in the art was “the hydrocarbon left on the carbon adsorbent itself as a residual ‘heel’ after the regeneration (purge) step.” These emissions “typically occur when a vehicle has been parked and subjected to diurnal temperature changes over a period of several days, commonly called ‘diurnal breathing losses.’” The invention of the ‘844 Patent “sharply reduc[es] diurnal breathing loss emissions from evaporative emissions canisters by the use of multiple layers, or stages, of adsorbents.”

BASF’S CARBON ADSORBENTS

BASF manufactures synthetic honeycomb scrubbers, which it claimed are cheaper and more effective than Ingevity’s honeycomb scrubbers. Like Ingevity, BASF does not produce the fuel vapor canisters. BASF’s claim of product superiority is two-fold.

First, BASF claims that it uses a superior source of carbon through its acquisition of EnerG2, Inc., a specialty carbon manufacturer that developed technology for synthesizing high purity activated carbon. In comparison to natural carbon, BASF asserted that synthetic carbon is purer and offers highly consistent pore-size distribution, total pore volume, and other properties. Second, BASF claims that it utilizes a different production method for its honeycomb scrubbers than Ingevity. Ingevity uses extrusion, the traditional method of manufacturing honeycomb scrubbers, which BASF argued is more expensive. Having several decades of experience with coating technology, BASF employs a coating process, instead of extruding its honeycomb scrubbers, like Ingevity. Further, BASF notes that its method of coating its honeycomb scrubbers provides customers with greater design flexibility.

In 2016–2017, BASF submitted its honeycomb scrubbers to fuel vapor canister manufacturers and OEMs for testing. According to BASF, its products outperformed Ingevity’s carbon adsorbent scrubbers. By 2017, BASF claimed that it was ready to enter the carbon adsorbent market to meet the increased demand from Tier 1 manufacturers and OEMs because of the LEV III/Tier 3 standards.

INGEVITY’S PATENT INFRINGEMENT CLAIMS ON THE ‘844 PATENT

On September 6, 2018, Ingevity sued BASF, alleging that its carbon adsorbents directly and indirectly infringed on the ‘844 Patent [3]. According to Ingevity, “BASF is manufacturing, testing, and marketing a new generation of the EvapTrap XC, known as the ‘New EvapTrap XC.’ The New EvapTrap XC purportedly operates as a bleed trap that can be used as part of, or in conjunction with, a fuel vapor canister.” Ingevity further argued that “BASF, its customers, and its vendors have performed and are currently performing testing for the New EvapTrap XC in conjunction with a fuel vapor canister. Such testing is referred to herein as New EvapTrap XC Testing. The New EvapTrap XC Testing includes testing the operation of evaporative emissions control systems that include at least one New EvapTrap XC operating as a part of, or in conjunction with, a fuel vapor canister.”

BASF’S ANTITRUST AND TORTIOUS INTERFERENCE COUNTERCLAIMS UNDER DELAWARE LAW

On February 28, 2019, BASF amended its answer to Ingevity’s complaint and asserted three counterclaims—two federal antitrust claims and one tortious interference claim under Delaware law.

First, BASF alleged that Ingevity violated Sections 1 and 2 of the Sherman Act and Section 3 of the Clayton Act by using its monopoly market power in the LEV III/Tier 3 carbon adsorbent market to lock manufacturers and OEMs into express, long-term exclusive supply agreements with Ingevity, which prevented LEV III/Tier 3 purchasers from

acquiring carbon adsorbents from BASF. Starting in 2015, BASF maintained that Ingevity recognized the competitive threat posed by BASF's honeycomb carbon adsorbent scrubbers and actively began implementing these long-term exclusive agreements with fuel vapor canister manufacturers in the US and Canadian markets. According to BASF, these supply agreements allowed Ingevity to charge supracompetitive prices with manufacturers. When the long-term exclusive agreements expired, BASF alleged that the language in Ingevity's contracts "pressured" LEV III/Tier 3 purchasers to renew their supply agreements with Ingevity. Because of Ingevity's business practices, BASF alleged that these long-term, exclusive supply agreements foreclosed its access to at least 50% of the potential sales for LEV III/Tier 3 carbon adsorbents.

BASF noted that the carbon adsorbent market is unique because suppliers of carbon adsorbents sell the vast majority of carbon adsorbents directly to Tier 1 manufacturers of fuel vapor canisters, with OEMs rarely purchasing carbon adsorbents. "Distributors or other intermediaries are not commonly used in the automotive supply chain for multiple reasons, including the engineering and technical sales support provided by carbon adsorbent suppliers. Therefore, due to absence of alternative sales channels and by ensuring that large customers of LEV III/Tier 3 compliant fuel vapor canisters . . . exclusively purchase carbon adsorbents from [Ingevity] alone, Ingevity has substantially foreclosed BASF from access to the customer base necessary to effectively grow and compete."

Second, BASF alleged that Ingevity's long-term, exclusive supply agreements had language that conditioned the purchase of its honeycomb carbon adsorbent scrubbers, which was "separate and apart" from the demand for other uses of activated carbon adsorbent products in automotive emissions systems. According to BASF, Ingevity contended, and told customers, that the '844 Patent is necessary to comply with the near-zero evaporative emissions standards instituted by LEV III/Tier 3. In addition, BASF alleged that Ingevity implemented significant, non-transitory price increases, which prevented Tier 1 manufacturers and OEMs from seeking other reasonable, substitute technologies to comply with LEV III/Tier 3 standards. Because of these actions, BASF maintained that "Ingevity successfully executed upon its plan to leverage its intellectual property to coerce customers into purchasing unpatented honeycomb scrubbers from Ingevity. Tellingly, although BASF's honeycomb scrubber is more effective at reducing evaporative emissions and has been successfully qualified by customers, none of them have purchased honeycomb scrubbers from BASF."

Third, BASF alleged that Ingevity's anticompetitive conduct tortiously interfered with its prospective business relations under Delaware law. To plead a claim for tortious interference with prospective business relations, Delaware law requires a plaintiff to prove the following elements: "(a) the reasonable probability of a business opportunity, (b) the intentional interference by defendant with that opportunity, (c) proximate causation and (d) damages." *DeBonaventura v. Nationwide Mut. Ins. Co.*, 428 A.2d 1151, 1153 (Del. 1981). In addition, a plaintiff must show that the alleged interference was improper. See *Lipson v. Anesthesia Servs., P.A.*, 790 A.2d 1261, 1287 (Del. Super. Ct. 2001). According to BASF, the company "enjoyed a reasonable probability of a business opportunity for the sale of honeycomb scrubbers, successfully qualifying under customers' specifications and also having negotiated terms for purchase orders. As explained in detail above, customers were prepared to place initial orders, up until the time of Ingevity's conduct at issue. At all relevant times herein, Ingevity had actual knowledge of these business opportunities and knew that these opportunities constituted valuable business for BASF." In short, BASF argued that Ingevity took improper actions to interfere with BASF's prospective business relationships with carbon adsorbent customers.

INGEVITY AND BASF'S MOTIONS AND CROSS-MOTIONS FOR SUMMARY JUDGMENT

At the close of discovery, BASF filed a motion for summary judgment to invalidate the '844 Patent for indefiniteness, invalidity for lack of written description and failure to enable the invention, and invalidity because a third party, Delphi, was a prior inventor of the carbon adsorbent, and that the patent is unenforceable due to patent misuse. Ingevity also moved for summary judgment on several issues, arguing that BASF was not entitled to raise equitable defenses (patent misuse, unclean hands, waiver, implied waiver, and equitable estoppel) or its enablement defense because of its prior conduct. Ingevity further argued for summary judgment that BASF's EvapTrap XC was not a staple article of commerce [4].

At oral argument on October 26, 2020, Judge Richard G. Andrews, denied both parties' summary judgment motions on enablement and written description. The Court also denied BASF's motion for summary judgment on indefiniteness. On November 17, 2020, Judge Andrews granted BASF's final pending motion for summary judgment and invalidated all of Ingevity's asserted patent claims, including the '844 Patent. In dismissing Ingevity's patent claims, Judge Andrews relied on the International Trade Commission's affirmation of an administrative law judge's invalidation of the '844 Patent. One ground for the invalidity determination was that the '844 Patent claims were anticipated by Delphi's prior invention. The administrative law judge concluded that the Delphi inventors "sufficiently appreciated their invention under 102(g)(2)," despite the Delphi inventors not fully knowing the market value. After an independent analysis of the relevant law and the facts in the record, Judge Andrews reached the same conclusion—the Delphi inventors appreciated their invention and reduced the claims of the '844 Patent to practice prior to Ingevity's conception.

THE JURY TRIAL ON BASF'S ANTITRUST AND TORTIOUS INTERFERENCE COUNTERCLAIMS

After Judge Andrews invalidated and mooted Ingevity's patent claims, BASF found itself in the unusual position of switching to the plaintiff side because only its counterclaims survived the summary judgment stage. On September 7, the jury trial began before Judge Andrews and lasted for seven trial days. At trial, Ingevity argued that its honeycomb carbon adsorbent scrubbers can only be used in fuel vapor cannisters. As such, Ingevity's carbon adsorbents are eligible for exclusive manufacturer control, which in turn is a procompetitive justification for its long-term, exclusive supply contracts and its terminology. Moreover, Ingevity argued that these supply agreements did not "foreclose" on BASF from competing in the honeycomb carbon adsorbent scrubber market.

After hearing closing arguments, the jury deliberated for portions of two trial days and returned a verdict in favor of BASF, and against Ingevity, on all three of BASF's claims. The jury awarded combined damages of \$28,285,714, which was trebled under the Sherman Act to \$84,857,142, plus attorney fees and costs. Within days of the jury verdict, Ingevity announced its intention to appeal the verdict and damage award.

KEY TAKEAWAYS

The BASF jury verdict demonstrates that exclusive purchase agreements, which require a dealer to sell and/or use the products of only one manufacturer, can be found to have anticipative effects on a new manufacturer from entering the product market and/or expanding its product footprint. In these scenarios, exclusive purchase agreements may be found to violate the Sherman and Clayton Acts if they prevent new market entrants from competing for sales.

Moving forward, automotive stakeholders should place an emphasis on seeking counsel about drafting supply agreements that allow dealers and/or manufacturers to maximize the value of their products without impeding competition and running afoul of antitrust laws that could subject the company to significant liability.

[1] While granular carbon could be used as the first stage adsorbent, OEMs have rejected its applicability because its shape restricts the flow of air and gasoline vapors, and substantially limits vehicle performance.

[2] Tier 1 manufacturers include companies that supply assembled, components, parts and/or systems directly to OEMs.

[3] See 35 USC § 271 (a), (f).

[4] The staple article of commerce doctrine “absolves the equivocal conduct of selling an item with substantial lawful as well as unlawful uses, and limits liability to instances of more acute fault than the mere understanding that some of one’s products will be misused.” See 35 USC §271 (c).