United States Court of Appeals for the Federal Circuit

NALCO COMPANY,
Plaintiff-Appellant

v.

CHEM-MOD, LLC, ARTHUR J. GALLAGHER & CO., GALLAGHER CLEAN ENERGY, LLC., AJG COAL, INC., AJG IOWA REFINED COAL, LLC, MANSFIELD REFINED COAL LLC, COPE REFINED COAL LLC, CROSS REFINED COAL LLC, JEFFERIES REFINED COAL, LLC, JOPPA REFINED COAL, LLC, THOMAS HILL REFINED COAL LLC, WAGNER COALTECH LLC, WALTER SCOTT REFINED COAL LLC, WINYAH REFINED COAL LLC, BEDFORD MIX LLC, BRANDON SHORES COALTECH LLC, CANADYS REFINED COAL, LLC, CORONADO REFINED COAL LLC, FRM TRONA FUELS LLC, FRM VIRGINIA FUELS LLC, GEORGE NEAL NORTH REFINED COAL LLC, GEORGE NEAL REFINED COAL LLC, LOUISA REFINED COAL, LLC, REFINED FUELS OF ILLINOIS, LLC, BELLE RIVER FUELS COMPANY, LLC,
Defendants-Appellees

2017-1036

Appeal from the United States District Court for the Northern District of Illinois in No. 1:14-cv-02510, Senior Judge John W. Darrah.

Decided: February 27, 2018

WILLIAM BRYAN FARNEY, Farney Daniels, PC, Georgetown, TX, argued for plaintiff-appellant. Also represented by CASSANDRA KLINGMAN.

RICHARD MARK, Gibson, Dunn & Crutcher LLP, New York, NY, argued for defendants-appellees. Also represented by JOSEPH EVALL, PAUL J. KREMER; STEVEN ERIC FELDMAN, SHERRY LEE ROLLO, Hahn Loeser & Parks, LLP, Chicago, IL.

Before MOORE, SCHALL, and O'MALLEY, *Circuit Judges.*

O'MALLEY, *Circuit Judge.*

Nalco Company ("Nalco") appeals from the district court's decision dismissing its Fourth Amended Complaint ("4AC") with prejudice for failure to state a claim upon which relief can be granted. The 4AC alleged infringement of U.S. Patent No. 6,808,692 ("the '692 patent") by Appellees Chem-Mod, LLC, Arthur J. Gallagher & Co., Gallagher Clean Energy, LLC, AJG Coal, Inc., and various Refined Coal LLCs (collectively, "Defendants"). *Nalco Co. v. Chem-Mod, LLC* (*Nalco 4AC Order*), No. 14-cv-2510, 2016 WL 1594966 (N.D. Ill. Apr. 20, 2016), *reconsideration denied*, *Nalco Co. v. Chem-Mod, LLC* (*Nalco 4AC Reconsideration Order*), No. 14-cv-2510, 2016 WL 4798950 (N.D. Ill. Sept. 14, 2016). We conclude that the district court erred in dismissing Nalco's direct infringement claims and, thus, reverse the district court's order as to those claims. We also reverse the district court's dismissal of Nalco's doctrine of equivalents, indirect, and willful infringement claims. We remand for further proceedings in this matter.

I. BACKGROUND

A. The Technology

Nalco is the exclusive licensee of the '692 patent, titled "Enhanced Mercury Control in Coal-Fired Power Plants," which describes a method for the removal of elemental mercury, a toxic pollutant, from the flue gas created by combustion in coal-fired power plants. '692 patent, Abstract. Previous attempts to filter mercury from coal combustion flue gas failed due to lack of commercial viability or excessive expense. *Id.*, col. 1, l. 29–col. 3, l. 51.

The methods claimed in the '692 patent solve this problem by reacting halogens, such as molecular chlorine (Cl_2) or molecular bromine (Br_2), with elemental mercury (Hg) in flue gas to form mercuric halides ($HgCl_2$ or $HgBr_2$), which precipitate into solid particles that can be filtered from the flue gas more easily. Molecular halides, however, cannot be injected into the flue gas on their own due to their corrosive properties. The '692 patent thus claims the injection of a halide precursor—a molecule that reacts to create an elemental halide—into the flue gas. The halide precursor is thermolabile, meaning that it reacts in the heat of the flue gas to create a molecular halide. The '692 patent explains that the preferred location to inject the halide precursor is in the combustion zone of the furnace. *Id.*, col. 4, l. 66–col. 5, l. 27.

Independent claim 1 recites:

> 1. A method of treating coal combustion flue gas containing mercury, comprising:
>
> injecting a bromide compound that is a thermolabile molecular bromine precursor into said flue gas to effect oxidation of elemental mercury to a mercuric bromide and providing alkaline solid particles in said flue gas ahead of a particulate

> collection device, in order to adsorb at least a portion of said mercuric bromide.

J.A 27, col. 2, ll. 42–51. In a preferred embodiment described in the '692 patent, a source of molecular halide (such as a bromine precursor) is injected directly into a region of the flow path of the flue gas downstream from the combustion zone. '692 patent, col. 3, l. 66–col. 4, l. 11.

Alstom Power, a non-party to this action, requested inter partes reexamination of the '692 patent; the Patent and Trademark Office ("PTO") initiated a proceeding in 2009. The Patent Trial and Appeal Board ("the Board") affirmed the validity of the asserted claims of the '692 patent, as amended, and the PTO issued a reexamination certificate on April 7, 2014.

B. District Court Proceedings

Nalco filed five successive complaints against various Defendants[1] in this proceeding, claiming that Defendants'

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[1] Nalco names multiple Defendants in its five complaints. In the 4AC, Nalco alleges that Arthur J. Gallagher & Co. ("A.J. Gallagher") holds a controlling interest in Chem-Mod, and therein has directed and controlled the infringing activities of Chem-Mod. Nalco also alleges that A.J. Gallagher has directed and controlled the actions and infringement of all other Defendants. Nalco alleges that Gallagher Clean Energy and AJG Coal are wholly-owned subsidiaries of A.J. Gallagher and have acted and infringed the '692 patent under the direction and control of A.J. Gallagher. Nalco contends, finally, that the Refined Coal LLCs are "direct or indirect subsidiaries of Defendants A.J. Gallagher, Gallagher Clean Energy, and AJG Coal; or are companies in which Defendants A.J. Gallagher, Gallagher Clean Energy, and AJG Coal have substantial ownership interests; or are companies in which Defendants A.J. Gallagher, Gallagher

Chem-Mod process operates in the same manner as the process encompassed by claim 1 of the '692 patent. The district court dismissed Nalco's complaints on three separate occasions. *Nalco Co. v. Chem-Mod, LLC* (*Nalco 1AC Order*), No. 14-cv-2510, 2015 WL 507921 (N.D. Ill. Feb. 4, 2015) (dismissing First Amended Complaint ("1AC") without prejudice); *Nalco Co. v. Chem-Mod, LLC* (*Nalco 3AC Order*), No. 14-cv-2510, 2015 WL 6122811 (N.D. Ill. Oct. 15, 2015) (dismissing Third Amended Complaint ("3AC") without prejudice); *Nalco 4AC Order*, 2016 WL 1594966 (dismissing 4AC with prejudice), *reconsideration denied*, *Nalco 4AC Reconsideration Order*, 2016 WL 4798950. In these orders, the district court concluded that each of Nalco's complaints suffered from factual deficiencies that precluded relief, as detailed further below.

1. Original Complaint and 1AC

Nalco filed its first complaint against Chem-Mod on April 8, 2014, one day after the PTO issued the reexamination certificate for the '692 patent. Nalco's Compl. for Patent Infringement, *Nalco Co. v. Chem-Mod, LLC*, No. 14-cv-2510 (N.D. Ill. Apr. 8, 2014), ECF No. 1. Nalco amended its complaint to add A.J. Gallagher and Gallagher Clean Energy, LLC as Defendants. Nalco's First Am. Compl. for Patent Infringement at 1, *Nalco Co. v.*

Clean Energy, and AJG Coal hold a leasehold interest relating to the Chem-Mod™ Solution." Nalco's Fourth Am. Compl. for Patent Infringement at 4–5 (*Nalco 4AC*), *Nalco Co. v. Chem-Mod, LLC*, No. 14-cv-2510 (N.D. Ill. Nov. 16, 2015), ECF No. 108. Nalco contends the Refined Coal LLCs were formed by A.J. Gallagher, Gallagher Clean Energy, and/or AJG Coal. Nalco alleges the Refined Coal LLCs have infringed the '692 patent under the direction and control of A.J. Gallagher, Chem-Mod, Gallagher Clean Energy, and AJG Coal.

Chem-Mod, LLC, No. 14-cv-2510 (N.D. Ill. July 25, 2014), ECF No. 14.

The 1AC alleged that these Defendants directly and indirectly infringed the '692 patent through the use and licensing of the Chem-Mod Solution in the United States. *Id.* at 3–6. According to the 1AC, the Chem-Mod Solution "comprise[d] dual injection of two additives [molecular bromine precursors MerSorb and S-Sorb] on the coal feed belts of coal burning power generation stations before the coal is fed into a coal combustion process." *Id.* at 3. The 1AC alleged that use of the Chem-Mod Solution practices all steps of at least claim 1 of the '692 patent because it "is a method of treating coal combustion flue gas containing mercury, which requires injecting a bromide compound that is a thermolabile molecular bromine precursor into a flue gas to effect oxidation of elemental mercury to a mercuric bromide." *Id.* Nalco asserted that the only difference between its patented method and Defendants' Chem-Mod Process is that the Chem-Mod Process injects MerSorb or S-Sorb in a different area of the plant than described in a preferred embodiment of the '692 patent.

The district court granted Defendants' motion to dismiss the 1AC under Federal Rule of Civil Procedure 12(b)(6), concluding that the 1AC could not support a finding of direct infringement because the '692 patent "differs from the Chem-Mod™ Solution in both when it is applied (after the coal is burned vs. before the coal is burned) and how it is applied (injected into the flue gas vs. mixed with cold coal)." *Nalco 1AC Order*, at *3. The district court also dismissed Nalco's indirect infringement claims based on failure to state a claim for direct infringement. *Id.*

2. 2AC and 3AC

In its Second Amended Complaint ("2AC"), Nalco attempted to address what it believed was the district court's misunderstanding of what the '692 patent claimed.

Nalco pled that Defendants infringed the '692 patent based on use of the Chem-Mod Solution, by mixing Mer-Sorb or S-Sorb with coal and then injecting this mixture (the "Chem-Mod Solution Mixture") into flue gas to form the mercuric bromide compound. Nalco's Second Am. Compl. for Patent Infringement at 7–8, *Nalco Co. v. Chem-Mod, LLC*, No. 14-cv-2510 (N.D. Ill. Mar. 3, 2015), ECF No. 64. Nalco asserted that the claims of the '692 patent do not restrict when, where, or how the "injecting" step is performed. *Id.* at 5–6. Nalco explicitly incorporated infringement contentions into this pleading. *Id.* at 10.

The 2AC includes as Defendants AJG Coal, Inc. and 34 John Doe limited liability company parties, unnamed coal refinery facilities that allegedly made coal using the Chem-Mod Solution and sold it to power plant operators. *Id.* at 11. Nalco also added allegations that Defendants acted in concert, under the direction and control of A.J. Gallagher, to earn Section 45 tax credits from the sale of refined coal. *Id.* at 10–16. Section 45 tax credits are offered for the sale of refined coal to an unrelated person for the production of steam in a coal-fired power plant. *Id.* at 11, 13. Nalco alleged that Defendant A.J. Gallagher formed wholly-owned subsidiary Defendants Gallagher Clean Energy and AJG Coal, controlled and directed the actions of Defendant Chem-Mod, and formed each of the Defendant Refined Coal LLCs solely to use the Chem-Mod Solution and to induce operators of coal-fired power plants to use the Chem-Mod Solution to obtain Section 45 tax credits. *Id.* at 11.

Defendants moved to dismiss the 2AC. In response, Nalco amended its complaint to replace the John Doe coal refineries with the 21 Refined Coal LLCs that allegedly operate them. Nalco's Third Am. Compl. for Patent Infringement at 2, 4–11, *Nalco Co. v. Chem-Mod, LLC*, No. 14-cv-2510 (N.D. Ill. Apr. 24, 2015), ECF No. 75. Nalco did not alter its allegations as to the relationships

between the Defendant entities or their allegedly infringing actions. The district court deemed Defendants' motion to dismiss the 2AC as filed against the 3AC because Nalco amended the 2AC before the district court resolved the motion to dismiss.

The district court granted the motion to dismiss. On direct infringement, the district court concluded that Nalco failed to plead facts supporting its allegations that the Chem-Mod Solution is "injected" as required by the claims of the '692 patent. *Nalco 3AC Order*, at *3. In the district court's view, the 3AC incorporated documents showing that MerSorb is added to coal in three locations: (1) on the coal feed belt before coal reaches the coal bunker; (2) between the coal bunker and coal feeder; and (3) in the coal feeder, before coal is pulverized. *Id.* In all of these locations, the MerSorb and coal mixture is added to the Chem-Mod process *before* coal combustion, prior to interaction with flue gas, and the district court concluded this process did not satisfy the "injecting" requirement. *Id.*

The district court also held that, even if the 3AC had successfully pled that the '692 claims covered use of the Chem-Mod Solution, Nalco's "direction and control" argument failed because the 3AC failed to allege that Defendants were responsible "for both preparing the Chem-Mod Solution Mixture and injecting the treated coal into coal combustion flue gas." *Id.* The district court found that "[a]ny argument that compliance with Section 45 of the tax code is evidence that Defendants direct and control the infringement of a patent in this case is unpersuasive and unconvincing." *Id.* at *2.

The district court also dismissed Nalco's indirect and willful infringement claims for failure to plead underlying direct infringement. *Id.* at *4. The district court further found that Nalco had not pled intent to induce infringement because the district court was unpersuaded that

receipt of Section 45 tax credits was indicative of the requisite intent. *Id.* On contributory infringement, the district court further found that the 3AC failed to allege facts to support the conclusion that "MerSorb and S-Sorb have no substantial non-infringing uses." *Id.*

3. 4AC and Motion for Reconsideration

Nalco makes similar allegations in the 4AC, supported by incorporated infringement contentions and various other evidence. Nalco alleges two theories of direct infringement in the 4AC. First, it alleges that "[t]he Chem-Mod™ Solution involves the step of 'injecting a bromide compound . . . into said flue gas . . . ' as recited in claim 1 of the '692 Patent." *Nalco 4AC*, at 15–16. Nalco further explains that, "[i]n the Chem-Mod™ Solution, the proprietary additive MerSorb™ is mixed with coal . . . . The Chem-Mod™ Solution Mixture is then injected into coal combustion flue gas to effect oxidation of elemental mercury into a mercuric bromide." *Id.* at 16. Alternatively, Nalco alleges that, "when a coal combustion furnace is operating, gases and other materials injected via coal injectors flow under pressure into areas of the coal combustion furnace beyond the areas of the furnace in which the coal component of the Chem-Mod™ Solution Mixture combusts and into additional areas of the furnace in which the coal combustion flue gas exists. Thus, this is an additional mechanism by which the MerSorb additive component of the Chem-Mod™ Solution Mixture is 'injected into . . . coal combustion flue gas.'" *Id.* at 17–18.

The 4AC also pleads various ways in which Defendants control or direct the performance of the steps claimed in the '692 patent, through commercial applications and through testing of the Chem-Mod Solution both on pilot scale and full scale. *Id.* at 26–40. The 4AC also alleges Defendants induced infringement of, contributorily infringed, and willfully infringed the '692 patent, and that Defendants infringed under the doctrine of equivalents.

The district court granted Defendants' motion to dismiss the 4AC with prejudice. As in the order dismissing the 3AC, the district court found that "the Chem-Mod Solution differs from the '692 Patent in both the location and method of application." *Nalco 4AC Order*, at *2. And the district court rejected Nalco's argument that, even if "injecting" of the solution is restricted to a specific time or location, Defendants still infringe the '692 patent under the doctrine of equivalents, finding that Nalco failed to support its contention that Defendants perform all claimed steps or their equivalents. *Id.* at *3. The district court concluded that its dismissal of Nalco's complaint prior to claim construction was not premature, as the facts Nalco pled did not support an undivided claim of direct infringement. *Id.*

The district court dismissed Nalco's divided infringement claim for the same reasons cited in its dismissal of the 3AC: compliance with Section 45 of the tax code is insufficient to allege that Defendants direct and control infringement of a patent. *Id.* Nor, according to the district court, was it sufficient for Nalco to allege that instructing power plants on the use of the Chem-Mod Solution Mixture demonstrated any control over the plants' performance of any infringing method steps. *Id.* The district court also refused to find that Nalco had alleged sufficiently that Defendants partnered in a joint enterprise with coal-fired power plant operators—finding that the existence of a contract between the Refined Coal LLCs and several power plants for purchase of the Chem-Mod Solution Mixture was insufficient to establish a joint enterprise, or an equal right of control. *Id.* at *4.

Again, the district court rejected Nalco's claims for induced and contributory infringement due to a failure to plead direct infringement. *Id.* The district court also found that Nalco failed to plead an induced infringement claim because it failed to plead facts indicating an intent to induce infringement. *Id.*

Nalco filed a motion for reconsideration and attached additional intrinsic and extrinsic evidence. The district court denied Nalco's motion for reconsideration, finding that Nalco failed to establish "manifest error of law or fact." *Nalco 4AC Reconsideration Order*, at *3. The district court also denied Nalco's request to allow it to, once again, amend the complaint because Nalco had multiple opportunities to present and incorporate its new evidence into a prior pleading yet had failed to do so. *Id.* at *2–3.

Nalco timely appealed from the district court's final decision. We have jurisdiction over this appeal under 28 U.S.C. § 1295(a)(1).

II. DISCUSSION

Federal Rule of Civil Procedure 8(a)(2) "generally requires only a plausible 'short and plain' statement of the plaintiff's claim," showing that the plaintiff is entitled to relief. *Skinner v. Switzer*, 562 U.S. 530 (2011). "Because it raises a purely procedural issue, an appeal from an order granting a motion to dismiss for failure to state a claim upon which relief can be granted is reviewed under the applicable law of the regional circuit." *In re Bill of Lading Transmission & Processing Sys. Patent Litig.*, 681 F.3d 1323, 1331 (Fed. Cir. 2012) (citing *McZeal v. Sprint Nextel Corp.*, 501 F.3d 1354, 1355–56 (Fed. Cir. 2007)); *C & F Packing Co. v. IBP, Inc.*, 224 F.3d 1296, 1306 (Fed. Cir. 2000)). The Seventh Circuit reviews a district court's dismissal for failure to state a claim under Rule 12(b)(6) de novo, and the district court's decision to dismiss with prejudice under Rule 12(b)(6) for abuse of discretion. *Manistee Apartments, LLC v. City of Chi.*, 844 F.3d 630, 633 (7th Cir. 2016). In so doing, the Seventh Circuit "assume[s] all well-pleaded allegations are true and draw[s] all reasonable inferences in the light most favorable to the plaintiff." *Id.*

Nalco contests the district court's dismissal of its direct and indirect infringement claims separately, and we examine each in turn.

A. Direct Infringement

Rule 12(b)(6) permits a defendant to move to dismiss a complaint for "failure to state a claim upon which relief can be granted." Fed. R. Civ. P. 12(b)(6). To survive a motion to dismiss under Rule 12(b)(6), a complaint must "contain sufficient factual matter, accepted as true, to 'state a claim to relief that is plausible on its face.'" *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009) (quoting *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007)). To meet this requirement, the plaintiff must plead "factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged"; put another way, the plaintiff must do more than plead facts "'merely consistent with' a defendant's liability." *Id.* (quoting *Twombly*, 550 U.S. at 556–57). When ruling on a motion to dismiss under Rule 12(b)(6), the court accepts all well-pleaded factual allegations as true and construes all reasonable inferences in favor of the plaintiff. *Id.*[2]

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[2] Nalco argues that Form 18 of the Appendix of Forms to the Federal Rules of Civil Procedure ("Form 18") provides the relevant pleading standard for certain claims in this case, because Form 18 was not abrogated until after the 4AC was filed. Titled "Complaint for Patent Infringement," Form 18 provided a sample allegation of direct infringement. We have held previously that compliance with Form 18 "effectively immunize[d] a claimant from attack regarding the sufficiency of the pleading." *K-Tech Telecomms., Inc. v. Time Warner Cable, Inc.*, 714 F.3d 1277, 1283 (Fed. Cir. 2013) (internal citation omitted). Nalco argues that all of its complaints should have been entitled to this leeway, at least with respect to its

As noted, the district court concluded that the "Chem-Mod Solution differs from the '692 Patent in both the location and method of application." *Nalco 4AC Order*, at *2. Nalco contends that the district court erred in this conclusion because, at least implicitly, the district court must have construed the term "flue gas" to mean gas resulting from coal combustion only when that gas passes through a region downstream of the combustion zone. Nalco argues that the district court incorrectly construed the term "injecting" to be limited to the first time the bromine precursor is applied to coal. Nalco asserts that the district court equated the place mixing occurs (which is outside of the plant) with the site of "injection," and determined that injection at that location did not satisfy the requirements of the '692 patent claims. Nalco contends that the resolution of its claims will depend on the construction of the terms "flue gas" and "injecting," and that resolution of this claim construction dispute was inappropriate at the Rule 12(b)(6) stage of the proceedings.

Defendants do not seem to challenge that Nalco met the notice requirement of FRCP Rule 8 or the pleading standard required under *Twombly* and *Iqbal*. Instead, Defendants assert that Nalco's infringement claims simply are not plausible because "a party may plead itself out of court by pleading facts that establish an impenetrable defense to its claims." *Tamayo v. Blagojevich*, 526 F.3d 1074, 1086 (7th Cir. 2008) (citing *Massey v. Merrill Lynch & Co., Inc.*, 464 F.3d 642, 650 (7th Cir. 2006)). Defendants contend that Nalco has done just this.

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direct infringement claims. We need not resolve this question because, as explained below, we find Nalco's 4AC sufficient under the current version of the Federal Rules and those cases interpreting those rules.

Nalco makes several allegations about the proper scope of the '692 patent relevant to this analysis:

> The claims of the '692 Patent do not restrict when the step of "injecting a bromide compound . . . into said [coal combustion] flue gas" . . . must be performed.
>
> [T]he claims of the '692 Patent do not restrict whether the step of "injecting a bromide compound . . . into said [coal combustion] flue gas" . . . be performed by injecting only a thermolabile molecular bromine precursor, or injecting a thermolabile molecular bromine precursor in combination with other compounds.
>
> [T]he claims of the '692 Patent do not restrict the specific mechanism by which or location within the coal-fired power plant at which the claimed "injecting" must occur.
>
> As explained in the '692 Patent, "coal combustion flue gas" is the gas that is created during the combustion of coal.

Nalco 4AC, at 14–15.

And, as noted, Nalco asserts two main theories of direct infringement—each explaining how use of the Chem-Mod Solution could plausibly involve injecting a thermolabile bromine precursor into coal combustion flue gas. First, Nalco contends that Defendants infringe by "injecting" the Chem-Mod Solution Mixture, MerSorb mixed with coal, into coal combustion flue gas via coal injectors in the furnace:

> The Chem-Mod™ Solution involves the step of "injecting a bromide compound . . . into said flue gas . . ." as recited in claim 1 of the '692 Patent.
>
> In the Chem-Mod™ Solution, the proprietary additive MerSorb™ is mixed with coal (the "Chem-

> Mod™ Solution Mixture"). The Chem-Mod Solution Mixture is then injected into coal combustion flue gas to effect oxidation of elemental mercury into a mercuric bromide.
>
> When a coal combustion furnace is operating, the coal component of the Chem-Mod™ Solution Mixture combusts to create coal combustion flue gas. This coal combustion flue gas is present throughout the operating coal combustion furnace, including the site at which the Chem-Mod Solution Mixture™ is injected via coal injectors into the operating coal-fired power plant.

Nalco 4AC, at 15–17 (citations omitted).

> Nalco also contends, alternatively, that:
>
> [W]hen a coal combustion furnace is operating, gases and other materials injected via coal injectors flow under pressure into areas of the coal combustion furnace beyond the areas of the furnace in which the coal component of the Chem-Mod™ Solution Mixture combusts and into additional areas of the furnace in which the coal combustion flue gas exists. Thus, this is an additional mechanism by which the MerSorb additive component of the Chem-Mod™ Solution Mixture™ is "injected into . . . coal combustion flue gas."
>
> [W]hen the Chem-Mod™ Solution Mixture is injected via coal injectors into an operating coal-fired power plant, a "bromide compound that is a thermolabile molecular bromine precursor" is "injected" into "coal combustion flue gas to effect oxidation of elemental mercury to a mercuric bromide" as recited in claim 1 of the '692 Patent.

Id. at 17–18. According to Nalco, this method also results in injection of the MerSorb additive into coal combustion flue gas. *Id.*[3]

We agree with Nalco that the 4AC plausibly alleges both direct infringement theories. First, Nalco plausibly has alleged that "injection" occurs when treated coal is fed into the furnace for combustion, where it encounters coal combustion flue gas. Nalco alleges that "coal combustion flue gas is present throughout the operating coal combustion furnace, including the site at which the Chem-Mod™ Solution Mixture is injected via coal injectors into the operating coal-fired power plant." *Id.* at 17. Nalco pled that the '692 claims do not restrict when injection occurs, whether injection can occur through injecting the bromine precursor alone or mixed with other compounds such as coal, or the specific mechanism for injection. *Id.* at 14–15. The claims require injecting a bromine precursor into flue gas. Nalco is entitled to all inferences in its favor on its theory that, when treated coal is injected into the furnace, this constitutes the required injection of the bromine precursor.

Defendants' objections to this theory of infringement read like classic *Markman* arguments. Defendants first

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[3] Defendants argued in their appellate briefing that Nalco alleges a third theory of infringement (named "Theory 1" in the briefing)—claim 1 requires injecting a bromide precursor into the flue gas and that injection could be performed through the preparation of refined coal by mixing MerSorb with cold coal. Appellee Br. 24–25; *Nalco 4AC*, at 15. In reply, Nalco clarifies that it alleges only two theories of infringement, and that this theory is an incomplete restatement of Nalco's theory that Defendants infringe through injection of the Chem-Mod Solution Mixture into coal combustion flue gas. Appellant Reply Br. 3.

take issue with Nalco's allegation that "coal combustion flue gas" is "the gas that is created during the combustion of coal." *Id.* at 15. But Defendants' arguments boil down to objections to Nalco's proposed claim construction for "flue gas," a dispute not suitable for resolution on a motion to dismiss.

Defendants also object to this theory based on an "admission" they claim Nalco made before the Board during the inter partes reexamination. There, Nalco stated that "flue gas" is combustion gas that "*reside[s] in the 'flue'*—the region of a coal combustor *from above the combustion zone* through the particulate collection system." J.A. 4816 (emphases added). Based on this statement, Defendants ask us to conclude that, under any construction, the term "flue gas" cannot encompass the coal combustion gas in the "combustion zone" of the lower furnace, where Nalco alleges the "coal injectors" are located. *See Nalco 4AC*, at 16.

Nalco disputes Defendants' interpretation of these reexamination statements. Resolution of that dispute, even if part of the record that can be considered, is particularly inappropriate in the Rule 12(b)(6) context.

Nalco has also adequately pled its alternative infringement theory: that "injection" occurs when a thermolabile bromine precursor flows under pressure through the furnace until it reaches flue gas. Nalco pled that the '692 method does not restrict either when or where the injecting step occurs. *Id.* at 14–15. Nalco also alleges that the coal combustion flue gas created from combustion of the Chem-Mod Solution Mixture "is present throughout the operating coal combustion furnace," including where the mixture is injected. *Id.* at 17. Even if the term "flue gas" were to be construed as limited to a particular location, Nalco alleges that injecting a molecular bromine precursor into the combustion zone will result in that

precursor flowing under pressure into the alleged "flue" area. *Id.* at 17–18.

The only argument Defendants make regarding the implausibility of this theory is that the thermolabile bromine precursor could not survive the extreme heat of the combustion areas of the furnace without decomposing, as thermolabile materials are unstable when heated. Defendants' objection relies on a factual finding that a thermolabile material could not survive passing from the combustion zone to the flue. But Defendants have not explained why we should—or could—make such a finding at this stage in light of Nalco's explicit pleadings to the contrary. Nor does any of the evidence cited by the parties indicate that Nalco has pled itself out of court. Nalco asserts that Felsvang (U.S. Patent No. 5,435,980), cited on the face of the '692 patent, teaches injecting a thermolabile halide precursor into the combustion zone to have an effect in the flue region. Nalco asserts that the inventor of the '692 patent developed the claimed invention by mixing coal with a bromine precursor and then injecting the treated coal mixture into the combustion zone. Nalco also cites to the Board's rejection of the position that "thermolabile" included a temperature restriction. J.A. 4913. Though Nalco was not required to provide evidentiary support for its claims at this stage of the proceedings, its evidence is not inconsistent with its claims as the district court seemed to believe.

As Nalco explained, these disputes between the parties hinge on where "flue gas" may be located within the power plant and what limitations are appropriate on where "injecting" may occur. It is not appropriate to resolve these disputes, or to determine whether the method claimed in the '692 patent should be confined to the preferred embodiment, on a Rule 12(b)(6) motion, without the benefit of claim construction. The "purpose of a motion to dismiss is to *test the sufficiency of the complaint, not to decide the merits*." *Gibson v. City of Chi.,* 910 F.2d

1510, 1520 (7th Cir. 1990) (emphasis added) (citation omitted). The plausibility standard "does not impose a probability requirement at the pleading stage; it simply calls for enough fact to raise a reasonable expectation that discovery will reveal evidence" to support the plaintiff's allegations. *Twombly,* 550 U.S. at 556.

Nalco need not "prove its case at the pleading stage." *Bill of Lading*, 681 F.3d at 1339 (citing *Skinner*, 562 U.S. at 529–30). The complaint must place the "potential infringer . . . on notice of what activity . . . is being accused of infringement." *K-Tech*, 714 F.3d at 1284. Nalco's pleading clearly exceeds the minimum requirements under Rule 12(b)(6), especially as "the Federal Rules of Civil Procedure do not require a plaintiff to plead facts establishing that each element of an asserted claim is met." *Bill of Lading*, 681 F.3d at 1335. The district court's failure to credit these allegations as true is reversible error.

We turn next to the aspects of Nalco's claims related to divided infringement. Nalco alleges three ways in which performance of all steps of claim 1 of the '692 patent can be attributed to Defendants. Nalco pleads that, as to Defendants' commercial applications, Defendants operate the process that treats coal with the Chem-Mod Solution at a power plant, and then contract to provide that treated coal to the power plant. *Nalco 4AC*, at 30–40. Nalco alleges that Defendants have engaged in controlling and directing operation of a test facility in North Dakota that carries out all steps of the claim. *Id.* at 26–29. Nalco also contends that Defendants directly infringed the '692 patent through full-scale testing of the Chem-Mod Solution. *Id.* at 28–30.

The district court concluded that, even if Nalco had adequately pled that the Chem-Mod Solution infringed the '692 patent, Nalco failed to allege that any Defendant is directly responsible for performing all method steps

recited in the '692 patent. *Nalco 4AC Order*, at *3–4. The district court focused its analysis exclusively on the commercial activity claim, noting that it had, in the order dismissing the 3AC, rejected Nalco's contention that compliance with Section 45 of the tax code indicated Defendants' direction and control of the coal-fired power plant's performance. *Id.* at *3.

Nalco does not appeal the district court's dismissal of its commercial activity allegations. *See* Appellant Reply Br. 19. And, Nalco does not challenge the district court's conclusion that benefitting from Section 45 tax credits by sale of the Chem-Mod Solution to coal-fired power plants is insufficient to show that Defendants have engaged in a joint enterprise with those power plants or directed the activities of those plants.

We conclude, on the other hand, that the 4AC plausibly states a claim that Defendants direct or control use of the Chem-Mod Solution in connection with the pilot-scale and full-scale testing of the solution. Importantly, the district court never addressed these allegations in its dismissal order. And, the Defendants neither denied them in an answer, nor challenged them in the motion to dismiss, nor defended their dismissal in this appeal. Defendants merely rely on their arguments as to the scope of the "flue gas" and "injecting" limitations, explaining that the process involved in the testing does not involve injecting a bromine precursor into flue gas. For the reasons explained, however, we reject those arguments.

"Direct infringement under § 271(a) occurs where all steps of a claimed method are performed by or attributable to a single entity." *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 797 F.3d 1020, 1022 (Fed. Cir. 2015) (en banc) (citing *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1379–81 (Fed. Cir. 2007)). The key inquiry, "[w]here more than one actor is involved in practicing the

steps," is whether "the acts of one are *attributable* to the other such that a single entity is responsible for the infringement." *Id.* (emphasis added). In *Akamai*, we explained that an entity would be held responsible for the performance of method steps by others "where that entity directs or controls others' performance," or "where the actors form a joint enterprise." *Id.* And we noted that, although we had previously held an actor:

> [L]iable for infringement under § 271(a) if it acts through an agent (applying traditional agency principles) or contracts with another to perform one or more steps of a claimed method . . . *liability under § 271(a) can also be found when an alleged infringer conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.*

Id. at 1023 (emphasis added) (citing *Metro–Goldwyn–Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 930 (2005)).

As we explained in *Travel Sentry, Inc. v. Tropp*, 877 F.3d 1370 (Fed. Cir. 2017), *Akamai* "broaden[ed] the circumstances in which others' acts may be attributed to an accused infringer to support direct-infringement liability for divided infringement, relaxing the tighter constraints on such attribution reflected in our earlier precedents." *Id.* at 1381 (alteration in original) (quoting *Mankes v. Vivid Seats Ltd.*, 822 F.3d 1302, 1305 (Fed. Cir. 2016)). Our case law emphasizes "the importance of correctly identifying the relevant 'activity' or 'benefit' that is being conditioned upon the performance of one or more claim steps. The cases also emphasize that the context of the claims and conduct in a particular case will inform whether attribution is proper under [*Akamai*'s] two-prong test." *Id.* at 1380. And, "a common thread connects" our case law on divided infringement, no matter the relation-

ship between the parties: we look for "evidence that a third party hoping to obtain access to certain benefits can only do so if it performs certain steps identified by the defendant, and does so under the terms prescribed by the defendant." *Id.*

Nalco makes multiple allegations about Defendants' direction or control of the pilot-scale testing at the North Dakota facility:

> The Defendants directly perform pilot scale testing that involves using the Chem-Mod™ Solution. The Refined Coal LLCs perform and contract for pilot scale testing of the Chem-Mod™ Solution. On information and belief, this pilot scale testing occurs at the Energy and Environmental Research Center ("EERC") of the University of North Dakota. The EERC at the University of North Dakota is an academic research facility that performs testing on coal combustion.
>
> In connection with this pilot scale testing, a single testing facility–including the EERC–performs each step of the methods claimed in the '692 Patent at the direction and control of the Refined Coal LLCs.
>
> This pilot scale testing includes preparing the Chem-Mod™ Solution Mixture at specific operating conditions using a specific concentration of MerSorb and S-Sorb and a sample of specific type of coal actually used at a subject power plant; injecting the Chem-Mod™ Solution Mixture into coal combustion flue gas; thereby injecting a bromide compound that is a thermolabile molecular bromine precursor into the coal combustion flue gas to effect oxidation of elemental mercury to a mercuric bromide as recited in claim 1 of the '692 Patent; and measuring the emissions of said process to confirm the use of the Chem-Mod™ Solu-

> tion has achieved the desired effect of reducing mercury in such emissions.
>
> Each of these steps is taken pursuant to the express direction and control of the Defendants.

Nalco 4AC, at 26–27. Nalco also incorporated an EERC document noting that the EERC performed pilot-scale testing of the Chem-Mod Solution as an agent for various Defendants (certain of the Refined Coal LLCs and A.J. Gallagher). *Id.* at 27–28.

Nalco alleges that Defendants directly perform full-scale testing at coal-fired power plants:

> In connection with this full-scale testing, the Defendants themselves either performed each steps [sic] of the methods claimed in the '692 Patent, or a single power plant operator performed each such step at the direction and control of the Defendants.

Id. at 28. Nalco incorporated into the complaint images from a presentation given by Defendants that describes seven full-scale burn tests conducted at coal-fired power plants. According to Nalco, the presentation shows the equipment setup for the tests and describes the reduction of mercury for various types of coal tested. The presentation notes that, in test results, no issues were identified. The presentation also explains that Defendants controlled all aspects of the power plant operations during the test. *Id.* at 28–29.

Nalco also incorporated images captured from Chem-Mod's website detailing Defendants' testing of the Chem-Mod Solution, and highlighted relevant statements in the 4AC:

> Defendant Chem-Mod's own website includes a detailed description that the pilot-scale and full-scale testing at coal-fired power plants of the

> Chem-Mod™ Solution included full use of the Chem-Mod™ Solution and included the measurement of mercury emissions.
>
> The Chem-Mod website states: "The Chem-Mod™ Solution has a track record built on more than six years of pilot- and full-scale testing."
>
> The Chem-Mod website states: "As a result, the product is fully commercialized and currently in use at eight power generating stations."
>
> The Chem-Mod website also references the testing at the EERC: "For its initial testing, Chem-Mod coordinated with the Energy & Environmental Resource Center (EERC) at the University of North Dakota, one of the leading clean energy technology laboratories in the world."

Nalco 4AC, at 29 (citations omitted).

And, Nalco notes that a paper attached to the 4AC, entitled "Advanced in Refined Coal Technology for Emissions Reduction," details the pilot-scale testing "setup and test procedures" used to test the Chem-Mod Solution at the EERC, including testing for mercury reduction. *Id.* This paper also describes the full-scale testing procedures, noting that "the chemicals [MerSorb] are further mixed with the coal in the grinding process. Stack emissions measurements are made using a variety of equipment and gas sampling methods . . . . The paper reports the reduction in mercury emissions using the Chem-Mod™ Solution after the Chem-Mod™ Solution Mixture is injected into coal combustion flue gas." *Id.* at 30.

We conclude that these allegations adequately plead attribution of the testing activities to Defendants. Whether as part of the pilot-scale or full-scale testing, Nalco alleges that the facility conducting the test engages in a specified activity—performing each step of the methods claimed in the '692 patent as part of the testing.

Nalco's pleading also alleges that performance of testing can be attributed to the actions of Defendants—this performance is conditioned on obtaining monetary benefits for performing the test requisitioned by Defendants. For the purpose of the attribution analysis, it does not matter whether the facility conducting the test is an educational facility, a non-Defendant coal-fired power plant, or a named Defendant; what matters is that, according to Nalco's allegations, the testing can be attributed to Defendants because the facility performing the test, and therein allegedly using the method described in the '692 patent, was directed to do so by Defendants.

Our case law does not require more at the pleading stage, nor does any of the evidence Nalco attached to the complaint contradict any of Nalco's allegations. Nalco's testing claims satisfy the pleading requirements for divided infringement, and we reinstate them accordingly.

B. Doctrine of Equivalents

Nalco also alleges that, even if the claims require that "injection" occurs at a particular time or location, or if the claims require that "injecting" is limited to a thermolabile molecular bromine precursor rather than a mixture of a thermolabile molecular bromine precursor mixed with other additives and/or coal, the Chem-Mod Solution would still infringe the '692 patent under the doctrine of equivalents. *Id.* at 18. The district court dismissed this claim after finding that Nalco had failed to adequately allege that Defendants' use of the Chem-Mod Solution required performance of all steps or the equivalent claim limitations of the '692 patent, particularly the "injecting" of bromide into flue gas. *Nalco 4AC Order*, at *3.

"[A] product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is 'equivalence' between the elements of the accused product or process and the claimed elements of the patented invention." *Warner-*

Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 21 (1997) (citing *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 609 (1950)). "A finding of infringement under the doctrine of equivalents requires a showing that the difference between the claimed invention and the accused product or method was insubstantial or that the accused product or method performs the substantially same function in substantially the same way with substantially the same result as each claim limitation of the patented product or method." *AquaTex Indus., Inc. v. Techniche Sols.*, 479 F.3d 1320, 1326 (Fed. Cir. 2007). "An analysis of the role played by each element in the context of the specific patent claim will thus inform the inquiry as to whether a substitute element matches the function, way, and result of the claimed element." *Warner-Jenkinson*, 520 U.S. at 40.

Nalco explicitly incorporated detailed infringement contentions explaining its doctrine of equivalents claim, and in particular how Defendants' use of the Chem-Mod Solution method satisfies the "injecting" claim element, in the 4AC. *Nalco 4AC*, at 18; J.A. 2436–38. Those allegations explain that, in Nalco's view, injecting MerSorb, whether mixed with other additives and/or coal, "into a coal-fired plant is at least equivalent to injecting a bromide compound that is a thermolabile molecular bromine precursor into coal combustion flue gas." J.A. 2437. According to Nalco, the function of the disputed "injecting" claim element is to "make the thermolabile molecular bromine precursor available to decompose at temperatures typical of coal combustion flue gas. When MerSorb mixed with other additives and/or coal is injected into an operating coal-fired plant, MerSorb is available to decompose at temperatures typical of coal combustion flue gas." *Id.* Nalco explains that the injection of MerSorb, mixed with other additives and/or coal, into a coal-fired plant leads to interaction between the thermolabile bromine precursor and coal combustion flue gas such that the

bromine precursor decomposes to species that are precursors to molecular bromine, which oxidizes elemental mercury. *Id.* This method achieves the function the '692 method claims in substantially the same manner as the literal claim element, according to Nalco. Nalco contends that, when MerSorb mixed with other additives and/or coal is injected into a coal-fired plant, it decomposes to elemental bromine precursors which effect oxidation of mercury—substantially the same as the literal claim element. J.A. 2438. Defendants have failed to explain why these allegations do not adequately state a claim under the doctrine of equivalents, and we see no reason why these allegations are insufficient to plead infringement by equivalents.

We conclude that Nalco's doctrine of equivalents claim adequately states a claim for infringement under the *Twombly* and *Iqbal* pleading standard. We therefore reverse the district court's dismissal of Nalco's claim of infringement under the doctrine of equivalents.

C. Indirect Infringement

The district court dismissed Nalco's indirect infringement claims for failure to adequately plead a direct infringement claim. *Nalco 4AC Order*, at *4. The district court also found Nalco had failed to plead intent as to its inducement claim. *Id.* Nalco appeals, and for the reasons stated below, we reverse the district court's dismissal of these claims.

"It is axiomatic that '[t]here can be no inducement or contributory infringement without an underlying act of direct infringement.'" *Bill of Lading*, 681 F.3d at 1333 (quoting *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1326 (Fed. Cir. 2004)). The district court dismissed these claims as pled in the 4AC, at least in part, because it found that Nalco had not adequately pled a claim for direct infringement. *Nalco 4AC Order*, at *4. We reverse the district court's dismissal of the indirect

infringement claims insofar as it relied on failure to plead a direct infringement claim.

Defendants raise various other challenges to Nalco's induced and contributory infringement claims. For the reasons stated below, we find that these objections are without merit and, thus, reinstate Nalco's indirect infringement claims.

1. Induced Infringement

"Whoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. § 271(b) (2012). Liability under § 271(b) "requires knowledge that the induced acts constitute patent infringement." *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 766 (2011). "For an allegation of induced infringement to survive a motion to dismiss, a complaint must plead facts plausibly showing that the accused infringer 'specifically intended [another party] to infringe [the patent] and knew that the [other party]'s acts constituted infringement.'" *Lifetime Indus., Inc. v. Trim-Lok, Inc.*, 869 F.3d 1372, 1379 (Fed. Cir. 2017) (alterations in original) (quoting *Bill of Lading*, 681 F.3d at 1339).

In the 4AC, Nalco alleged that Defendants had knowledge of the '692 patent and performed various activities with specific intent to induce others, including the Refined Coal LLCs and their coal-fired power plant customers, to infringe by, among other activities, providing instructions, support, and technical assistance for the use of the Chem-Mod Solution. *Nalco 4AC*, at 24–25; *id.* at 42–44 (alleging induced infringement by Defendant Chem-Mod using the Refined Coal LLCs and coal-fired power plant operators); *id.* at 46–47 (alleging induced infringement by Defendant A.J. Gallagher); *id.* at 49–51 (alleging induced infringement by Defendant Gallagher Clean Energy); *id.* at 53–54 (alleging induced infringement by Defendant AJG Coal); *id.* at 56–57 (alleging induced infringement by Refined Coal LLCs using other

Refined Coal LLCs and coal-fired power plant operators). The district court dismissed the indirect infringement claims, concluding that "Nalco has not sufficiently pled a claim for direct infringement or intent to cause infringement." *Nalco 4AC Order*, at *4.

Defendants argue that Nalco waived its challenge to the dismissal of its induced infringement claim by failing to argue the district court erred in concluding that Nalco had not pled intent in the 4AC. In its opening brief, Nalco addressed this issue in a footnote, stating that, "[a]s to inducement, the [district] court may also have based its decision on a conclusion that Nalco failed to plead 'intent,' but this would be plain error." Appellant Br. 60 n.20 (citing *Nalco 4AC*, at 20–30, 34, 42–44). Defendants contend this statement contains no argument, and therefore Nalco has waived any challenge on this point on appeal.

We decline to find Nalco waived its challenge to the district court's determination that it failed to plead intent, however, as "[a]n appellate court retains case-by-case discretion over whether to apply waiver." *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1251 (Fed. Cir. 2005) (citing *Singleton v. Wulff*, 428 U.S. 106, 120 (1976), and *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1344 (Fed. Cir. 2001)). The district court's treatment of the inducement claim was cursory, and Nalco addressed the underlying direct infringement claim as well as intent in its opening brief by citing to multiple allegations in the 4AC that plead Defendants' intent to infringe.

For an allegation of induced infringement to survive a motion to dismiss, the complaint must plead facts plausibly showing that the accused infringer "specifically intended [another party] to infringe [the patent] and knew that the [other party]'s acts constituted infringement." *Bill of Lading*, 681 F.3d at 1339. The 4AC alleges facts that plausibly show Defendants specifically intended their

customers to infringe the '692 patent, and that Defendants knew the customers' actions would constitute infringement. Despite Defendants' arguments to the contrary, the 4AC does not only plead Defendants' knowledge of the '692 patent—it alleges that Defendants acted with specific intent to induce infringement of the '692 patent by the Refined Coal LLCs and other downstream customers of the Chem-Mod Solution. *See Nalco 4AC*, at 24–25; *id.* at 42–44; *id.* at 49–51; *id.* at 53–54; *id.* at 56–57.

Nor was Nalco required to plead that a named Defendant engaged in the underlying direct infringement; Nalco's allegations that, in certain circumstances, a non-Defendant power plant operator or testing facility is the direct infringer who actually performs the injection of the thermolabile bromine precursor into flue gas is sufficient to state a claim for indirect infringement. *Nalco 4AC*, at 27. For these reasons, we reverse the district court's dismissal of Nalco's induced infringement claim.

2. Contributory Infringement

Contributory infringement occurs if a party sells, or offers to sell, "a component of a patented . . . combination, . . . or a material . . . for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. § 271(c) (2012).

In the 4AC, Nalco alleges that Defendants have contributorily infringed the '692 patent through selling and offering to sell MerSorb and S-Sorb to operators of coal-fired power plants and/or the Refined Coal LLCs. *Nalco 4AC*, at 42, 45, 48–49, 52, 55–56. Nalco contends that Defendants had knowledge of the '692 patent or were willfully blind to its existence, and that MerSorb and S-

Sorb were known by Defendants to be especially made or adapted for infringing the '692 patent. *Id.* The district court dismissed this claim based solely on its finding that Nalco had failed to plead direct infringement. *Nalco 4AC Order*, at *4.[4]

Defendants argue Nalco failed to plead that Defendants had the requisite intent to infringe the '692 patent, but Nalco was not required to plead intent. "[C]ontributory infringement requires knowledge of the patent in suit and knowledge of patent infringement." *Commil USA, LLC v. Cisco Sys., Inc.*, 135 S. Ct. 1920, 1926 (2015) (citing *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 488 (1964)). "[C]ontributory infringement requires 'only proof of a defendant's *knowledge*, not *intent*, that his activity cause[s] infringement.'" *Lifetime*, 869 F.3d at 1381 (emphasis in original) (quoting *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469 (Fed. Cir. 1990)). Nalco explicitly pled facts to show Defendants' knowledge, prior to filing of the suit, of the '692 patent and that MerSorb and S-Sorb were especially made or adapted for infringing it, and Defendants do not argue to the contrary. *Nalco 4AC*, at 40.

Defendants also contend that Nalco failed to allege that MerSorb and S-Sorb have no substantial noninfringing use. A substantial noninfringing use is any use that is "not unusual, far-fetched, illusory, impractical, occasional, aberrant, or experimental." *Vita-Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1327 (Fed. Cir. 2009). "For purposes of contributory infringement, the inquiry focuses on whether the accused products can be used for

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[4] In its order dismissing the 3AC, the district court found Nalco failed to adequately plead that the Chem-Mod materials had noninfringing uses. *Nalco 3AC Order*, at *4. The district court did not reference that finding in its order dismissing the 4AC.

purposes *other than* infringement." *Bill of Lading*, 681 F.3d at 1338 (emphasis in original). To this point, Nalco pled that:

> As sold and delivered to the Refined Coal LLCs or operators of coalfired power plants using the Chem-Mod™ Solution, the proprietary additives MerSorb and S-Sorb, which are specifically formulated to be used with the Chem-Mod™ Solution in coal-fired power plants, have no substantial non-infringing uses. When a coal-fired power plant or a Refined Coal LLC receives MerSorb and S-Sorb it purchased, the coal-fired power plant or Refined Coal LLC has no other use for MerSorb and S-Sorb except to use those additives in the Chem-Mod™ Solution.

Nalco 4AC, at 23. Nalco also alleges that the Chem-Mod Solution Mixture has no substantial noninfringing uses. *Id.* We must presume these allegations are true at the pleading stage. To the extent Defendants dispute these allegations, this is a factual inquiry not suitable for resolution on a motion to dismiss.

For these reasons, we conclude Nalco has adequately stated a claim for contributory infringement.

D. Willful Infringement

We address finally Nalco's claim for willful infringement of the '692 patent. The district court dismissed Nalco's willfulness allegations in its order dismissing the 3AC because it found Nalco failed to plead direct infringement. *Nalco 3AC Order*, at *3. The district court did not discuss these allegations when it dismissed the 4AC, however.

Nalco argues that, if we conclude that Nalco has adequately pled direct infringement of the '692 patent, we should reverse the district court's dismissal of the willful infringement claim. Appellant Br. 60 n.20. Defendants

respond that direct infringement is a required predicate for claims of willful infringement, and that Nalco has failed to adequately plead its underlying claim. Appellee Br. 46–47.

Because we conclude that Nalco has adequately stated a direct infringement claim for at least some of the methods of infringement allegedly used by Defendants, we reverse the district court's dismissal of the willfulness claim and reinstate Nalco's willful infringement claim for further proceedings. *See* 35 U.S.C. § 284.

III. CONCLUSION

For the foregoing reasons, we reverse the district court's dismissal of Nalco's 4AC, except with respect to the district court's dismissal of Nalco's allegations of divided infringement for commercial applications, which we do not disturb. The case is remanded for further proceedings consistent with this opinion.

REVERSED AND REMANDED

COSTS

Costs to Nalco.