MARKUSH MADNESS: WATSON AVOIDS INFRINGEMENT BY ADDING AN ELEMENT TO A FORMULATION

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Pharma and BioPharma Litigation Alert

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On February 1, 2017, in *Shire Development, LLC v. Watson Pharmaceuticals, Inc.*, the U.S. Court of Appeals for the Federal Circuit held that Watson's proposed generic version of Shire's LIALDA® did not infringe claims 1 and 3 of Shire's U.S. Patent No. 6,773,720 (the "'720 patent").[1] In reversing the district court, the Federal Circuit determined that Shire's claim to an outer layer "consisting of" a list of specific elements closes the universe of elements for infringement purposes, and Watson's addition of an ingredient ("magnesium stearate") to the outer layer of its accused product created non-infringement because it was outside the claimed list of elements.[2] The Federal Circuit's opinion rests on a strict reading of the Markush groups within the '720 patent and a rejection of the district court's broad reading of the Federal Circuit's opinion in *Norian Corp. v. Stryker Corp.*[3]

BACKGROUND

A Markush-type claim (also known as a Markush group) allows a patent drafter to capture independent, related claim elements in a single limitation. The claim is characterized by the form "selected from the group consisting of A, B and C."[4] The "consisting of" language closes the group from including other members, such as "D." "Consisting of" limits an element to only the named members of the group, and an element selected from outside that group will not be covered by the claim. In contrast, patent drafters frequently use an alternative preamble "comprising" to keep the claims open to additional, unrecited elements.[5]

Here, Shire sued Watson for infringing claims 1 and 3 of the '720 patent by filing an Abbreviated New Drug Application ("ANDA") with the Food and Drug Administration seeking to market a generic version of Shire's drug LIALDA®. The '720 patent is directed to a controlled-release oral composition of mesalamine (5-amino-salicylic acid) used to treat Crohn's disease and ulcerative colitis. The claimed composition includes the mesalamine active ingredient; an inner, lipophilic matrix that "resists dissolving in water"; an outer, hydrophilic matrix that "readily dissolves in" water; and other optional excipients. In relevant part, claim 1 of the '720 patent reads:

1. Controlled-release oral pharmaceutical compositions containing as an active ingredient 5-amino-salicylic acid, comprising:

> an *inner lipophilic matrix* consisting of *substances selected from the group consisting of* unsaturated and/or hydrogenated fatty acid, salts, esters or amides thereof, fatty acid mono-, di- or triglycerids, waxes, ceramides, and cholesterol derivatives with melting points below 90° C., and wherein the active ingredient

> is dispersed both in said [sic] the lipophilic matrix and in the hydrophilic matrix;
>
> an *outer hydrophilic matrix* wherein the lipophilic matrix is dispersed, and said outer hydrophilic matrix consists of compounds selected from the group consisting of polymers or copolymers of acrylic or methacrylic acid, alkylvinyl polymers, hydroxyalkyl celluloses, carboxyalkyl celluloses, polysaccharides, dextrins, pectins, starches and derivatives, alginic acid, and natural or synthetic gums;
>
> optionally other excipients . . . .

'720 patent col. 6 ll. 7–30 (emphasis added). Thus, Shire's claims include "consisting of" twice in subpart (b), before and in the Markush group.

Watson's ANDA formulation contained two matrices, an inner lipophilic matrix, and an "extragranular space" that the district court recognized as the outer hydrophilic matrix. The outer matrix, however, contained magnesium stearate, which Watson added to the formulation as a lubricant.[6] Magnesium stearate is not a member of the Markush group of claim 1 subpart (b), and it is lipophilic rather than hydrophilic.

EARLIER PROCEEDINGS

After a bench trial in 2013, the district court held that Watson infringed '720 patent claims 1 and 3 (which depends from claim 1). On a previous Federal Circuit appeal, and again after remand from the Supreme Court, the Federal Circuit construed the matrices to be "defined by mutually exclusive spatial characteristics — one inner, one outer — and mutually exclusive compositional characteristics — one hydrophilic, one lipophilic."[7] The Federal Circuit also explained that the matrix compositions were "limited by the Markush groups added during prosecution to overcome" an obviousness rejection.[8]

On remand, the district court again held that Watson's formulation infringed claims 1 and 3. The district court recognized that the "consisting of" language creates a very strong presumption that the claim element is "closed" and "exclude[s] any elements, steps, or ingredients not specified in the claims."

There is a "rare exception" to the presumption that "consisting of" language closes a claim, set out in *Norian*.[9] If an element is "unrelated to the invention," then adding it to the alleged infringing product does not take it outside the closed claim. In *Norian*, the claim was directed to a calcium phosphate kit designed to repair teeth and bones, "consisting of" a calcium source, a phosphorus source, and a solution of sodium phosphate with a specific concentration and pH. The alleged infringer included those three elements but added a spatula to the kit. *Norian* held that adding the spatula did not avoid infringement of the closed claim because the spatula was "unrelated to the invention."

Relying on *Norian*, the district court held that the magnesium stearate in the outer matrix — which Watson added as a lubricant — constituted a component "unrelated" to the invention and did not avoid infringement of the closed claim. The district court further reasoned that magnesium stearate was unrelated to the invention because, in the outer matrix, its lipophilic influence was overwhelmed by the "more potent" hydrophilic properties of sodium starch glycolate in the outer matrix.

THE FEDERAL CIRCUIT DECISION

The Federal Circuit reversed the district court and held that Watson's formulation did not infringe claims 1 and 3 of the '720 patent. The Federal Circuit noted, as did the district court, that "Watson's ANDA Product does not facially satisfy the claim 1(b) Markush limitation" because it includes magnesium stearate in the outer matrix. The Federal Circuit disagreed, however, with the district court's interpretation of *Norian* and what constitutes a component unrelated to the invention.

The Federal Circuit held that "the magnesium stearate structurally and functionally relates to the invention, and its presence in the outer matrix violates the 'consisting of' requirement in claim 1(b)."[10] The district court had concluded that the magnesium stearate outside the granules in Watson's formulation was unrelated to the invention because it did not advance the lipophilic properties of the Markush group, but the Federal Circuit disagreed because allowing an additional element, so long as it did not advance the properties of the Markush group, would effectively equate the narrow "consisting of" language with broader "comprising" or "consisting essentially of" language.[11] The Federal Circuit relied on the district court's own findings that magnesium stearate exerted lipophilic influence in the outer matrix and that magnesium stearate is so strongly lipophilic that it may impart lipophilic characteristics to a composition even in low concentrations.

Shire argued that the magnesium stearate was unrelated to the invention because magnesium stearate was added as a lubricant in a concentration insufficient to render the outer matrix lipophilic and did not impact the hydrophilic outer matrix. But the Federal Circuit reasoned that "*Norian* did not restrict related components to only those that advance or are intended to advance a Markush group's allegedly inventive elements."[12] The Federal Circuit also rejected Shire's argument that the claim 1(b) covers products with magnesium stearate in the outer matrix because the '720 patent includes examples where the outer matrix contains magnesium stearate. The court held that the examples do not overcome the presumption that Markush groups are closed, and nothing in the intrinsic record supported a construction of "consisting of" that would allow the claim to cover magnesium stearate in the outer matrix.

The Federal Circuit also rejected Shire's attempt to rely on element 1(c) of claim 1, which optionally allows other excipients. The Federal Circuit noted that the inclusion of magnesium stearate was not rendered permissible by part 1(c) because 1(c) falls under the "comprising" preamble and is therefore outside of the Markush group in 1(b).[13] Because the ANDA formulation did not satisfy element 1(b), there was no infringement of claim 1 or claim 3, and the Federal Circuit remanded for entry of a judgment of non-infringement.

LOOKING FORWARD

Markush claims present a unique device for adding breadth to a claim while avoiding prior art. Markush claims can, however, substantially narrow the scope of a claim. Existing precedent does not create a bright-line rule for when an extra element will cause a product to fall outside the scope of a claim that includes a Markush Group. *Shire* is useful because it provides another data point on the continuum of cases construing the scope of Markush groups. *Norian* previously established that a spatula used to apply the claimed chemical composition was unrelated to the patented chemical invention and therefore not required to be listed in the claimed Markush group. Conversely, in *Shire*, the addition of a lipophilic excipient to a hydrophilic element was a change that

"structurally and functionally relates to the invention" and therefore required a finding of non-infringement because the excipient was not listed in the claimed Markush group.

Shire filed a petition for rehearing and rehearing *en banc* of this decision on March 13, 2017. K&L Gates will continue to monitor this case and provide updates regarding developments.

NOTES:

[1] *Shire Dev., LLC v. Watson Pharm., Inc*., No. 2016-1785, Slip. Op. at 1 (Fed. Cir. Feb. 10, 2017).

[2] *Shire*, Slip. Op. at 6–10.

[3] *Norian Corp. v. Stryker Corp*., 363 F.3d 1321 (Fed. Cir. 2004).

[4] *See* Ex parte Markush, 1925 C.D. 126 (Comm'r Pat. 1925).

[5] Another, less frequently used preamble, "consisting essentially of" is somewhere between "consisting of" and "comprising"; it covers unrecited elements that do not materially change the characteristics of the claimed invention. *Shire*, Slip. Op. at 9.

[6] *Id*. at 8 ("the district court held, that the magnesium stearate in Watson's product . . . include[d] as a lubricant rather than for its lipophilic properties").

[7] *Shire Dev., LLC v. Watson Pharm., Inc*., 787 F.3d 1359, 1366 (Fed. Cir. 2015), *remanded by* 135 S. Ct. 1174 (2015), *granting cert. to and vacating* 746 F.3d 1326 (Fed. Cir. 2014).

[8] *Shire Dev., LLC v. Watson Pharm., Inc*., No. 2016-1785, Slip. Op. at 4 (Fed. Cir. Feb. 10, 2017). Specifically, the examiner rejected the original claim 1 which stated in 1 (a) "an inner lipophilic matrix consisting of substances with melting point below 90oC in which the active ingredient is at least partly inglobated" because the examiner interpreted the original language to cover the inclusion of magnesium stearate in the lipophilic matrix. Final Rejection at 3–4 ('720 patent file wrapper June 9, 2003). In response, the applicants moved two dependent claims into the original independent claim 1, adding the Markush groups seen in parts (a) and (b) to the independent claim. Amendment After Final Rejection at 2–3 ('720 patent file wrapper Oct. 9, 2003). Applicants added the "consisting of" language presently found in part (b) to limit the original "comprising" language. Claims in § 371 App'n of PCT/EP00/05321 at 11 ('720 patent file wrapper Dec. 13, 2001); Preliminary Amendment at 1, 4 ('720 patent file wrapper Dec. 13, 2001).

[9] *Norian*, 363 F.3d at 1331.

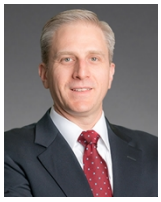
[10] *Shire Dev., LLC v. Watson Pharm., Inc*., No. 2016-1785 (Fed. Cir. Feb. 10, 2017)

[11] *Id*. at 8.

[12] *Id*.

[13] *Id*. at n.2.

KEY CONTACTS



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