

Difficulties in the Technical Appraisal of Patent Infringement in the Chemical Materials Field and Solutions Thereto.

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Problem

One of the chief difficulties in patent infringement proceedings involving chemical materials is that the physical and chemical properties, microstructure and components of compounds and materials cannot be directly observed or distinguished by using the naked eye, and so it is therefore usually necessary to use special testing instruments, and for technical interpretation to be performed by professionals, in order for judicial organs to be able to ascertain infringement from the legal perspective.

However, in practice, the patentee may find that they are unable to find a suitable testing agency, that the entrusted testing agency is unable to fully reproduce the testing method described in patent specifications, or that their unilateral appraisal is not recognised by judicial organs.

This article will discuss the most suitable methods for conducting technical appraisals that are recognised by judicial organs and is intended for the reference of owners of chemical material patents seeking to protect their patent rights.

The legal effects of unilateral appraisal

For the purpose of this article, the technical appraisal of patent infringement will be divided into two categories: unilateral appraisal and interlocutory appraisal.

Unilateral appraisal means that before filing a patent lawsuit, the patentee undertakes a technical appraisal using their own equipment and technical personnel, or else entrusts third-party testing or a judicial appraisal agency with making the appraisal on their behalf. Interlocutory appraisal means that the technical appraisal is conducted by a judicial appraisal agency entrusted by the court as the result of an infringement action. The “Decision of the Standing Committee of the National People’s Congress on the Administration of Judicial Appraisal” (hereinafter referred to as the “NPC’s Decision”) stipulates that judicial appraisal refers to activities intended to identify the specific issues involved in the litigation, and to provide opinions based on technological or specialized knowledge to be used during litigation. An individual or a business may also

entrust a judicial appraisal agency with making an appraisal before formally filing a lawsuit. For ease of explanation, the judicial appraisal mentioned in the article below does not specifically refer to appraisal by an agency entrusted by the court during a lawsuit, but also includes instances of appraisal unilaterally entrusted by the patentee.

(*In accordance with PRC Civil Procedure Law, the Several Provisions of the Supreme People's Court on Evidence for Civil Proceedings, the Decision of the National People's Congress on the Administration of Judicial Appraisal, as well as the relevant provisions of the General Principles of Judicial Appraisal Procedures, judicial appraisal under the Civil Procedure Law specifically refers to appraisal activities conducted by a judicial appraisal agency entrusted by the court during a lawsuit. Appraisal by a judicial appraisal agency upon unilateral entrustment cannot be deemed "judicial appraisal" in the legal sense. Since some clients have been found in practice to lack an understanding of "unilateral entrustment to a judicial appraisal agency", this is to give an explanation.)

When it comes to patent infringement appraisals of chemical materials, even though the correct testing methods and instruments are clearly described in the patent specifications, it is also necessary to examine sample preparation, testing conditions, instrument parameter settings and the like before a test is conducted. To facilitate operation and control costs, some patentees make recourse to unilateral appraisal during the pre-litigation period. However, there is no direct or clear provision under existing laws and regulations regarding the legal effect of results obtained via unilateral appraisal.

Article 41 of "Several Provisions of the Supreme People's Court on Evidence for Civil Proceedings (amended in 2019)" (hereinafter referred to as the "Civil Evidence Provisions") stipulates that: "Where one party entrusts any specific issue to the relevant agency or personnel, if the other party produces any evidence or reason for objection, and meanwhile requests appraisal, the people's court should allow it."

As can be seen from the above provision, parties are not forbidden by law to engage in unilateral appraisal, but the object of appraisal, the testing method and results may as a result be in question in terms of their relevance, reasonableness and authenticity, as the court and the other party were not involved in the unilateral appraisal conducted by the patentee or by a third agency on their behalf. Thus, unilateral appraisal is generally deemed to have a relatively lower probative force than interlocutory appraisal entrusted by the court.

For example, in case no. (2021) Zui Gao Fa Zhi Min Zhong No. 1417, the plaintiff respectively entrusted two testing agencies with issuing appraisals, in order to prove that the defendant's products fell within the protection scope of the plaintiff's patent. However, the court finally held that the plaintiff failed to fulfil the initial burden of proof due to the fact that the appraisal opinions were issued upon the plaintiff's unilateral entrustment and did not record the source of the materials tested, and thus the results were not relevant to the defendant.

In case no. (2020) Yu 01 Zhi Min Chu No. 1194, the plaintiff unilaterally handed the notarized products in question to a judicial appraisal agency. The defendant argued that the appraisal was unilaterally entrusted and involved illegal procedures and the unsanctioned sourcing of materials, but clearly stated that they would not request an appraisal of their own. The court eventually accepted the result of the plaintiff's unilateral appraisal and made its judgment on this basis.

In case no. (2014) Su Zhi Min Zhong Zi No. 113, both plaintiff and defendant unilaterally entrusted a judicial appraisal agency with appraisal and submitted corresponding opinions. Therefore, the two parties had no dispute over unilateral entrustment. The court also commented on the appraisal opinions submitted by both parties and made a judgment on this basis.

As be seen from Civil Evidence Provisions and the above cases, unilateral entrustment is recognised by the court under the following conditions: the authenticity and relevance of the tested materials are strictly examined and even better, are obtained under notarization or with the defendant's recognition; appraisal personnel are subject to the technical investigation conducted by the court and present a scientific and reasonable response to the appraisal opinions of the defendant; and the defendant fails to offer a strong

rebuttal or counter-evidence to the unilateral appraisal. In addition, there is no evidence of cases in which the court or the defendant have directly recognised a patentee's unilateral appraisal opinions.

Influence of the object of appraisal, testing methods and instruments used on appraisal opinions

Whether unilateral appraisal or interlocutory appraisal, the object of appraisal, the testing scheme and the test instruments to be used must all be specified. There should be a clear relationship between the object of appraisal, i.e., the materials to be tested, and the defendant, and the object should also be within normal parameters of performance, in other words, preferably within its shelf-life.

It should be noted that unlike analysis and inspection for scientific research purposes, which can be conducted using a variety of instruments and methods, the method and instruments applied in the technical appraisal of patent infringement are should generally be consistent with those described in the related patent specification. This is because different testing methods and instruments are likely to affect the result. When ascertaining the infringement of a claim defined within a value range, an "error" caused by the use of instruments different to those specified may lead to inaccurate results.

This is particularly the case when a foreign patentee is involved. The testing method described in the patent specification is usually to foreign standards - for example, ISO, ASTM standards and JIS standards – which are slightly different in terms of testing method and instruments to their corresponding Chinese standards, GB, GB/T.

As a result, in certain cases, appraisal agencies in China may not be able to fully reproduce the test conditions and environment described in the patent specification. Generally speaking, the appraisal agency will not then affix its seal to certify the results of the test, leaving a degree of ambiguity that the defendant can argue.

Appraisal of patent infringement can be conducted even when the subject of appraisal expires

In case no. (2019) Jing Min Zhong No. 46, the court of first instance decided that the infringing products submitted by the patentee had passed the expiry date and thus there was no basis for their appraisal on the grounds that as reactive dye products, their compound structures or components deteriorate or become less stable after being stored for an excessive period in humid and hot conditions. The court of second instance upheld the first instance judgment after comprehensively considering both the time when the application for appraisal was filed, the allocation of the burden of proof and otherwise, even though it was still technically possible to appraise the expired products.

In case no. (2019) Zui Gao Fa Zhi Min Zhong No. 649, the defendant argued that the sample of tested materials had expired and were seriously substandard, and thus the appraisal opinions based upon it could not be used as the basis for ascertainment. The court of second instance held that the tested materials were phosphor powder to be used in white-light LED lamps. The expert engaged by the appraisal agency confirmed that LED lamps generally have a long life and that phosphor powder, which has relatively stable physical properties, would not decompose easily. In view of this, it was not sufficient to deem the expiration date marked on the tested materials as equivalent to the shelf life of the phosphor powder. Since the defendant failed to prove that the physical properties of the materials had changed by furnishing evidence, the defendant's argument that the tested materials were substandard did not merit court support.

In case no. (2017) Yue Min Zhong No. 581, the judicial appraisal agency entrusted by the court of first instance opined that the products involved had expired and thus it was difficult to guarantee whether the sublimation dyes, dispersants and organic solvents they contained still performed according to original standards, which would affect the test results and render it impossible to guarantee veracity. Therefore, the court of first instance did not support the plaintiff's request for judicial appraisal, holding that it was impossible to ascertain the technical properties of the alleged products. However, after determining the object of appraisal and consulting with the National Administration for Patent Examination and chemistry experts at colleges and universities, the court of second instance confirmed that the conditions and need for appraisal were in place, and thus approved the plaintiff's request for appraisal and initiated the judicial appraisal procedure in the second instance.

This demonstrates, even when materials to be tested have expired, their testability and appraisal opinions resulting from testing them are not always denied. The court will decide by considering the nature and use of the tested materials as well as other factors, such as what the appraisal is intended to prove, expert opinions, etc.

The failure of appraisal caused by the failure of implementation of the testing method

In case no. (2013) Sui Zhong Fa Zhi Min Chu Zi No. 250, the court entrusted a judicial appraisal agency with the appraisal of a qualitative molecular structural formula, its melting point and particle size. Later, the judicial appraisal agency considered that the particle size test should be conditioned on the dispersion conditions of the sample, but that the dispersion system of the sample preparation did not meet the “over-polish” conditions required by testing standards. In light of this, the judicial appraisal agency opined that there was no available method for appraisal of the particle breakage rate due to the limitations of existing technical conditions. The court finally accepted the opinions of the judicial appraisal agency reasoning that although the plaintiff raised an objection to the above-mentioned opinions of the judicial appraisal agency, they had failed to provide further evidence to support their objection before the end of the court’s debate.

The use of different testing methods and instruments does not necessarily lead to disapproval of appraisal opinions

In judicial practice, when the testing method and instrument are inconsistent with those described in the patent specification, the court will consider whether the testing method is scientific and reasonable, the advanced nature of the alternative testing instrument, and the authenticity of the test data.

In case no. (2020) Zui Gao Fa Zhi Min Zhong No. 1104, the patent involved polyolefin microporous films. The defendant argued that: the method of testing some of the parameters in the Test Report was not consistent with patent specifications; the materials laboratory issuing the report was not qualified to conduct the test; the report did not bear a qualification certification; and the report itself clearly stated that the test results should not be used for enforcement, or other judicial purposes. Therefore, they argued, it should not be used as the basis for judicial opinions.

In this regard, the court of first instance held that the report was based on a testing method related to the patent involved, and that when conditions and environments were not completely consistent with those in the patent specification, the test could still be conducted using more advanced instruments and equipment that are widely accepted in the industry. Moreover, as shown in the appraisal agency’s explanation of its main testing method and processes, tests, test results, and use of instruments and equipment, the method was scientific, reasonable, authentic, and reliable.

On this basis, the court of second instance further held that the entrusted appraisal agency was qualified to carry out the test, and that it was not improper for the test to be conducted by a laboratory with testing capabilities that met higher appraisal requirements. The public issue of appraisal opinions affixed with a qualification certification was not required, and thus the report was not invalid without it. In addition, while the relevant provisions of the report indicated that it should not be used for enforcement, it did not state that the data it contained could not be used as the basis for judicial appraisal. Therefore, as long as the steps, parameter settings and test conditions were correct, the relevant data recorded in the report truly and objectively reflected the technical features of the alleged infringing products.

In case no. (2014) Min San Zhong Zi No. 2, the court entrusted a Shanghai research institute with appraisal of the alleged infringing products. The defendant argued that the testing instruments and operating parameters recorded in the report were inconsistent with those described in the patent specification and that differences in method and instrument type and model had a direct impact on the results.

The court of first instance held that: the testing method and relevant parameters were not within the scope of protection of the patent; inspection personnel had explained that the instruments used in the appraisal and the instruments described in the patent specification were made by the same manufacturer, but were more advanced, and that testing conditions and parameters were all defaulted, having no impact on the results.

The court of first instance accepted the appraisal opinions. The court of second instance held that: the defendant did not put forward requirements for testing instruments and operating parameters in the first instance; when the testing method was consistent with that described in the patent specification and the

method was globally accepted according to the explanation given by the personnel, the testing conditions and relevant parameters were defaulted, despite differences in testing instruments and operating parameters, and the model used had no effect on the test results regarding specific surface area and total pore volume. Therefore, the report should be found to be authentic and relevant.

In the absence of the testing method being clearly recorded, the court may accept the opinion of a judicial appraisal agency or an inspection agency

In case no. (2020) Zui Gao Fa Zhi Min Zhong No. 1602, the court eventually decided that the judicial appraisal agency had conducted the whole gene sequence appraisal and the gene-specific fragment appraisal in accordance with the instructions of the defendant and the plaintiff, respectively. The court also pointed out that the appraisal agency could, at its discretion and based on its professional knowledge, conduct an appraisal using any method other than the above-mentioned methods, but that it would have to explain the reason for adopting an alternative method of appraisal.

The judicial appraisal agency and the inspection agency it entrusted opined that examination of the sub-nucleus was necessary in a whole gene sequence appraisal, but that this was neither a national nor an industry standard, nor was it test certified by the CMA or the CNAS, and thus was not a standard testing method. It also stated that the data and test report obtained could be not certified by the CMA or the CNAS. Given the experimental nature of this kind of testing, the inspection agency had not conducted sub-nucleus operations because it was impossible to predict any problems or risks that might arise, or guarantee the reliability of the results. Therefore, the gene sequencing results after sub-nucleus operation were not guaranteed reliable. In view of this, the judicial appraisal agency and the inspection agency suggested conducting a gene-specific fragment appraisal and their explanation was eventually accepted by the courts of both first and second instances.

In case no. (2013) Hu Gao Min San (Zhi) Zhong Zi No. 71, the court of first instance held that the testing method applied to ascertain whether the alleged infringing product fell within the scope of protection of the plaintiff's patent claim should be determined by the appraisal agency based on its professional knowledge in conjunction with the specific circumstances, and not put forward by either of the two parties. Secondly, in the absence of any other methods for appraisal, the reference sample testing method adopted by the inspection agency was standard in organic chemistry. Therefore, the court of first instance did not accept the objection raised by the defendant regarding the scientific basis of the method. The court of second instance confirmed that it was not improper for the inspection agency to use these general methods for appraisal.

As can be seen from the above-mentioned cases, the testing methods or instruments are sometimes not clearly described in the patent specification, and the testing methods and instruments adopted by the inspection agency may not be exactly the same as those described. In such situations, if the alternative methods or instruments are commonly used in the field, the court will generally consider the alternative method or instrument to be scientific and reasonable, and the data obtained therefrom to be reliable. Objections raised by the other party will not be accepted in the absence of contrary evidence.

Conclusion

If a patentee wishes for a unilateral appraisal or an interlocutory judicial appraisal to be conducted and accepted by the court, they should summarize and record all details of the appraisal in advance so that patent lawyers, inspection personnel, judicial appraisal personnel and the court are able to fully understand its technical contents.

Based on judicial precedents and on our practical experience, we offer the following suggestions:

- 1 If possible, it is best for the patentee to first conduct a unilateral test. The testing method and instrument should be as consistent as possible with those described in the patent specification, with a test report recording the key issues and difficulties during the process.
- 2 To avoid unnecessary disputes, it is recommended that inspection and analysis be conducted before the materials pass their expiry date. Although the court may not completely deny the testability of expired samples, it is simpler to conduct appraisal of suspected infringing products and file a lawsuit as promptly as possible.

- 3 The patentee should communicate the appraisal scheme in detail with their patent attorney. For foreign patentees, the Chinese patent granted is usually in the same patent family as its foreign counterpart. Consequently, the testing method mostly conforms to foreign test standards, which may be different to those applied by Chinese appraisal agencies. If the Chinese appraisal agency cannot fully reproduce foreign test standards, alternative solutions can be used. In proposing a technical solution, the patentee needs to explain the alternative solution's scientific basis and reasonableness.
- 4 As far as using non-standard testing methods, or ones not commonly used in the industry, it is recommended that the patentee repeats the test in advance and explains the accuracy, scientific basis, and reasonableness of the method in detail. When necessary, the patentee may invite authoritative agencies and industry experts to give explanatory opinions, and promptly communicate their findings with the court.
- 5 As for non-standard sample preparation, it is recommended that the patentee record the process in detail. Sample preparation requirements may well be missing in patent specifications. However, in terms of certain physical properties, sample preparation is of particular importance, and the quality of sample preparation may directly affect test results. If the preparation method is not standard or does not follow the one commonly used in the industry - such as separation, peeling off or otherwise - the patentee may make visual records of the sample preparation process when necessary, and explain the scientific basis of the process.
- 6 The specific container, mould, etc. described in the patent specification may be provided to the patent attorney in advance. When a claim is defined via performance parameters and special sample preparation is necessary for infringement appraisal, some containers, moulds, etc. of specific character and size may be required. In this situation, it is suggested that the patentee promptly provide the containers and moulds to facilitate appraisal.

Authors



Rieko Michishita

Partner

+861059335680
rieko.michishita@twobirds.com



Ryan Xu

Associate at Lawjay Partners*

+861059335700
ryan.xu@twobirdslawjay.com

(*associated firm with Bird & Bird)

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