

## Surprising effects and inventive step in the jurisdictions of Germany, the US, Europe and Japan

Stefan Féaux de Lacroix has extensive experience in the drafting, prosecution and invalidation of patents in the chemical and pharmaceutical field. He is interested in the developments in patent law and jurisdiction that affect patent drafting and prosecution strategies.

In 2006, he published a paper in which he analyzed under which conditions surprising effects or properties can render a claimed chemical compound or composition inventive (GRUR 2006, No 8, 625-630, in German language). He evaluated and compared German, US and EP jurisdictions in order to see under which circumstances surprising effects or properties can render a novel technical teaching inventive. The conclusion was that in addition to the surprising effects or properties, there needs to be evidence or at least an indication for the non-obviousness of the novel technical teaching per se – and thus irrespective of the surprising properties.

### Secondary considerations

Often, unexpected or surprising properties or effects of a chemical compound or composition are regarded as secondary considerations or signs of evidence, which are taken into account when deciding on (non-)obviousness

of a compound or composition. When considered as objective proof for non-obviousness, they are able to refute a prima facie finding of obviousness. If, however, they are only an extra effect or bonus effect presented to supplement a further set of expected properties for a claimed chemical compound or formulation, they cannot overcome the assessment of obviousness of the technical teaching per se (irrespective of the properties) even when they are surprising.

The surprising properties can thus be an additional technical effect, supplementing an expected and obvious effect. They can also demonstrate a synergistic effect or an unexpected quantitative improvement of a certain property of the compound or composition. Synergism or quantitative effects often play a role in selection inventions, in which a specific embodiment of a general prior art teaching shows surprisingly high effectiveness.

### **Illogical findings?**

Weighing up expected and unexpected properties may lead to a confirmation of the (prima facie) obviousness or to its rebuttal. It might seem illogical or a contradiction that a per se obvious technical teaching may become unobvious if it results in unexpected or surprising technical effects. Only in a one-way-street situation, in which there is only one alternative for modifying a known compound, composition or process, unexpected properties cannot dissuade a patent examiner from finding the teaching obvious.

### **Contradictory theories**

In a recent decision, the JP jurisdiction has picked up this thread, balancing two seemingly contradictory theories: Surprising or unexpected effects can be considered as an independent requirement for inventive step, so that even when a technical teaching is obvious per se, a patent can be granted as reward for finding and disclosing the unknown and unexpected advantageous property or effect. The second theory focuses on the question of whether the technical teaching per se can be derived from the prior art without inventive effort, the surprising advantageous property being only of secondary importance, inapt for overcoming a founded obviousness rejection. Depending on which theory prevails, a finding of (non-)

obviousness can oscillate between different deciding authorities.

This was the case in granted patent JP3068858, concerning an ophthalmic formulation with surprisingly high effectiveness. The patent was challenged and only in the last instance upheld by the Japanese Supreme Court and IPHC. The parallel EP patent 0 799 044 was granted after oral proceedings since the active compound kept its efficiency also at higher doses in contrast to the known compound, for which higher concentrations led to negative effects. Therefore, the Japanese jurisdiction on unexpected technical effects supporting inventive step appears to be in line with the German, US and EP jurisdictions.

### **Practical advice**

When drafting patent applications, it should be borne in mind that it is recommendable to disclose all technical effects and advantages of the claimed invention in the original application text. The German and US patent and trademark offices are willing to accept later-filed advantageous properties and experimental results (since they are considered inherent to the compound or composition), but the European and Japanese patent offices are reluctant to accept technical properties or advantages that are nowhere disclosed in the application

as filed. The reasoning is that these data may represent a separate invention not covered by the filed patent application.

A later rewording of the object underlying the invention may be problematic for the same reason (for an in-depth analysis, see Stefan Féaux de Lacroix's 2005 publication on the reformulation of the object or the technical problem, VPP Rundbrief No 4, in German language). Stefan Féaux de Lacroix is happy to answer your queries.



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