

## **PATENTS ACT 1977**

IN THE MATTER OF a reference to the Comptroller under Sections 8 and 12 by Dr Peter Frederick Wilde in respect of Patent Applications GB9406423.5 and PCT/GB95/00554 in the name of Imperial Chemical Industries plc.

### **DECISION**

#### **Introduction**

1. GB application 9406423.5 was filed on 31 March 1994, and was terminated in 1995 before publication. PCT application PCT/GB95/00554 was filed on 15 March 1995 claiming priority from the earlier GB application and was published as WO 95/26794 on 12 October 1995. The applicants in each case were Imperial Chemical Industries plc ("ICI"), who named Richard Llewellyn Powell, Timothy James Noakes and Peter Frederick Wilde ("Dr Wilde") as inventors.
2. The applications relate to the extraction of bioactive or natural products by the use of (hydro)fluorocarbons, the three independent claims of the PCT application reading:

"1. A process for extracting a composition comprising a biologically active compound or a precursor thereof from a raw material containing such a compound or precursor as a constituent part, which process comprises the steps of (1) contacting a sample of the raw material with an extraction solvent comprising a C<sub>1-4</sub> (hydro)fluorocarbon, and (2) separating the solvent liquor thus obtained containing the extract from the raw material.

6. A process for extracting a compound or composition of matter from a raw material containing that compound or composition as a constituent part, which process comprises the steps of (1) contacting a sample of the raw material with an extraction solvent comprising a C<sub>1-4</sub> (hydro)fluorocarbon and a co-solvent, and (2) separating the solvent liquor thus obtained containing the extract from the raw material.

7. A process for extracting a natural product from a plant material containing that product as a constituent part, which process comprises the steps of (1) contacting a sample of the plant material with an extraction solvent comprising a C<sub>1-4</sub> (hydro)fluorocarbon and a co-solvent, and (2) separating the solvent liquor thus obtained containing the extract from the plant material."

3. Thus, there are two related but separate aspects to the invention as presented, firstly the use of an extraction solvent comprising a C<sub>1-4</sub> (hydro)fluorocarbon to extract specifically biologically active compounds or precursors (claim 1), and secondly the use of an extraction solvent comprising a C<sub>1-4</sub> (hydro)fluorocarbon together with a co-solvent to extract compounds or natural products more generally (claims 6, 7). In each case the preferred (hydro)fluorocarbon solvent is 1,1,1,2-tetrafluoroethane or HFC134a ("R-134a").

4. The referrer, Dr Wilde, initiated the present proceedings on 3 June 1997 under Sections 8(1)(a) and 12(1)(a). In his statement, as amended on 10 July 1997, he seeks an order to declare himself as joint applicant with ICI in relation to the two applications and any further corresponding applications filed abroad by ICI. The respondents, ICI, request that the orders sought be denied. Dr Wilde's evidence-in-chief and evidence-in-reply comprise affidavits sworn by himself. ICI's evidence-in-chief comprises affidavits sworn by Ian Mark Dee, Richard Llewellyn Powell and Anthony Paul Brierley. In addition Dr Wilde later lodged a further affidavit and ICI responded with a further affidavit from Dr Powell. The matter came before me at a hearing on 24 June 1998. ICI were represented by Mr Ian Dee formerly ICI's Patent Attorney but now of Eric Potter Clarkson, whilst Dr Wilde conducted his case himself.

### **Preliminary issue**

5. Following the usual evidence rounds, Dr Wilde submitted to the office on 21 May 1998 a document which purported to set out his case in the dispute, and in an accompanying letter, he foreshadowed the presentation of further documentary evidence. Dr Wilde was warned that the document was not in a suitable form to be accepted as evidence and in any case he would need the leave of the Hearing Officer to have any additional evidence admitted. Dr Wilde subsequently filed a further sworn affidavit on 10 June 1998. Mr Dee, for ICI, argued in a letter that the evidence should not be admitted, on the grounds of its late submission, and also on the ground that it was largely irrelevant to the question of entitlement. In the event, however, that I should

decide to admit Dr Wilde's further evidence, ICI submitted a further affidavit sworn by Dr Powell.

6. At the hearing, Mr Dee maintained ICI's objection that the further evidence was irrelevant, arguing that the late-filed documents referred to matters which were not pertinent to the issue at hand. As regards the affidavit, I decided that, whilst it contained some irrelevant matter, there was matter in most, if not all, of the paragraphs that could legitimately be regarded as relevant to the present proceedings. Accordingly I formally admitted the affidavit, and also the affidavit of Dr Powell, filed by ICI in response. As regards the unsworn document filed on 21 May 1998, I decided that it did contain rather more irrelevant matter, but as it had not been submitted as formal evidence, I did not need to either admit it or decline to admit it. I would treat it as a proposed skeleton of Dr Wilde's case.

### **Background**

7. For some years Dr Wilde has been involved in work relating to the extraction of essential oils from natural products using solvents. The solvents commonly used were from the family known as chlorofluorocarbons or CFCs. These were known to be damaging to the earth's ozone layer, and moves were being made internationally to restrict or ban their manufacture. Seeking alternative solvents, Dr Wilde obtained a sample of R-134a and found this to be effective. The use, *inter alia*, of this solvent to extract components from natural materials is disclosed in a patent application GB9303546.7 filed on 22 February 1993 and now published as GB2276392 in the name of DGP (Consulting Engineers) Ltd ("DGP"). Dr Wilde was employed by DGP at that time and is named as inventor in that patent application.

8. ICI were major suppliers of R-134a, and in May 1993, Dr Wilde and Peter Dawson, DGP's managing director, met several representatives from ICI with a view to jointly develop and exploit this technology. Some form of agreement was reached to take this forward, and evidence, in the form of copies of pages from laboratory books, has been submitted by Dr Powell, to show that during November and December 1993, various trials were conducted using R-134a alone and also in mixtures with other solvents such as dimethyl ether or butane, to extract substances including pharmacologically active components from various bio-masses.

9. On 31 December 1993, Dr Wilde's employment with DGP voluntarily ceased, and on 1 January 1994 the IP rights held by DGP were transferred to a new, wholly owned subsidiary company, Advanced Phytonics Limited ("APL"). Dr Wilde, according to his evidence, became a paid consultant to this new company and was a shareholder, but was not, at that time, formally employed by them. These strange arrangements were made apparently in connection with a bid to obtain a European Commission research grant..

10. The GB Application in suit was filed on 31 March 1994. Prior to that, on 28 January 1994, in a letter signed by Dr Wilde, APL relinquished any rights they had as 'joint patentees', allowing ICI to be named as sole applicants in the application.

### **The Issue**

11. This is an application under Section 8(1)(a) and Section 12(1)(a) of the Patents Act 1977, which sections deal with entitlement rights with regard to UK patents and foreign and convention patents respectively. During the hearing Dr Wilde made several references to his 'inventors' rights', so for clarity and completeness, we should also have regard to Section 7 of the Act.

12. Section 7 of the Act is as follows:

- (1) *Any person may make an application for a patent either alone or jointly with another.*
- (2) *A patent for an invention may be granted -*
  - (a) *primarily to the inventor or joint inventors;*
  - (b) *In preference to the foregoing, to any person or persons who, by virtue of any enactment or rule of law, or any foreign law or treaty or international convention, or by virtue of an enforceable term of any agreement entered into with the inventor before the making of the invention, was or were at the time of the making of the invention entitled to the whole of the property in it (other than equitable interests) in the United Kingdom;*
  - (c) *in any event, to the successor or successors in title of any person or persons mentioned in paragraph (a) or (b) above or any person so mentioned and the successor or successors in title of another person so mentioned; and to no other person.*
- (3) *In this Act "inventor" in relation to an invention means the actual deviser of the invention and "joint inventor" shall be construed accordingly.*

- (4) *Except so far as the contrary is established, a person who makes an application for a patent shall be taken to be the person who is entitled under subsection (2) above to be granted a patent and two or more persons who make such an application jointly shall be taken to be the persons so entitled.*

13. In the present case we have three named inventors, Dr Wilde, R L Powell and T J Noakes. Section 7(2)(a) specifies that a patent may primarily be granted to the inventors, however, Section 7(2)(b) gives preference to any person or persons who, ".. by virtue of an enforceable term of any agreement entered into with the inventor before the making of the invention, was or were at the time of the making of the invention entitled to the whole of the property in it ...". Now, under Section 39 of the Patents Act, it is set down that any invention made by an employee, in the course of normal duties or specifically assigned duties, and the circumstances are such that an invention might reasonably be expected to result from the carrying out of those duties, shall belong to the employer.

14. Thus in the present case, it is not disputed that the contributions of R L Powell and T J Noakes to the invention belong to ICI, because they were employed by ICI or one of its subsidiaries throughout the period from the date of the initial collaboration agreement, to the date of filing the GB patent application, and the nature of their duties were such that an invention might reasonably be expected to result. The position of Dr Wilde is not quite so clear cut, but again, I believe that it is not in dispute that for the period up to 31 December 1993 he was employed by DGP, and the nature of his duties were such that any contribution that he made to the invention up to that date, belonged to DGP. After 31 December 1993, it is Dr Wilde's contention that he was not an employee of DGP, nor of APL, which was a wholly-owned subsidiary of DGP and which from 1 January 1994 was vested with all of DGP's intellectual property rights existing at that time.

15. The questions that I have to address in order to determine this reference are: what contribution was made by Dr Wilde to the invention, and when was that contribution made? In addition to the written evidence filed by both parties, I have had the benefit of oral evidence given by Dr Wilde and Mr Dee during cross-examination. I should say that I found both of them helpful, open and reliable witnesses.

16. I have some difficulty in determining the contributions made by the three named inventors as little evidence has been given in this respect. Dr Wilde is acknowledged as the inventor of the basic extraction process using R-134a alone, but this invention was made some time earlier since it is the subject of a patent application filed in February 1993 and is particularly directed towards the extraction of fragrant oils. Dr Powell in his first affidavit states that he initiated the programme of investigations on the use of R-134a for extracting biologically active compounds and of solvent blends containing R-134a for various solvent extractions, however there is no evidence that ICI were investigating this field prior to the May 1993 meeting with Dr Wilde. For his part, Dr Wilde on the other hand says that he and Dr Powell "cooperated very closely in developing the technology". There appears to be no evidence at all regarding the contribution of Dr Noakes, the third named inventor. There is no dispute that Messrs Powell and Wilde were together present at the trials at UMIST and Durham University on 14-15 December 1993.

17. The crux of Dr Wilde's argument was that the invention was made after 31 December 1993, and that, as he was not employed at that time, his contribution to the invention belonged to him, and so he was entitled to ownership of the patent jointly with ICI. The evidence filed with the affidavit of Dr Powell included copies of laboratory notebook pages recording various experiments. Firstly, on several dates in November 1993, experiments were carried out within ICI's laboratories on extracting oils from ground cumin using as solvents, R-134a alone and admixed with dimethylether and butane. Secondly, on 14 December 1993, experiments were carried out on extracting taxol precursor from yew tree needles at UMIST in Manchester using the same solvents. Thirdly, on 15 December, experiments were carried out at Durham University on the extraction of 'monensin-A', an antibiotic used as a bacteria-suppressant in poultry feed, and on the extraction of a further antibiotic 'cytochalasin-D', again using the same solvents. All these experiments are closely reproduced in Examples 1-11 of the applications in suit, the November and 15 December experiments leading to the numerical results directly repeated in Examples 1-9 of the applications. Thus, it would appear that the essence of both inventions presented in the applications (*ie* the extraction of bioactive compounds using R-134a alone, and the extraction of other compounds or natural products using a mixture of R-134a and a co-solvent) were present by the end of December 1993.

18. Dr Wilde does not contest that these tests took place. On the contrary, as already indicated he confirms that he was present at those carried out at UMIST in Manchester, and at Durham University. However, it is his contention that until the results of these various tests were analysed, and it was not disputed that for some of the tests these analyses were not completed until after the end of December 1993, one could not say that an invention had been made. He also states in his affidavits that he carried out a large amount of work relating to the invention at his home in the early part of 1994. However, none of the exhibits that he has put forward shows any evidence of experimental work directly related to the invention in the present case. Under cross-examination, it was evident that the work he claims to have carried out was more developmental in nature relating to commercialising the process, rather than basic work defining the invention.

19. Regarding Dr Wilde's submission that the invention cannot be regarded as having been made until the results of all supporting experiments have been analysed, I have to say that I am not persuaded by this proposition. In any case, I am satisfied that for a good proportion of the trials, qualitative results at least were available in December 1993 and which refers to the better results obtained by the use of mixtures of R-134a with dimethylether or butane than with R-134a alone. All that was missing was some analytical results to corroborate the experimental work. This is supported by the evidence filed with Dr Powell's second affidavit, which is a copy of Dr Wilde's note on the day spent at Durham University. There is also the fact that all of the examples reproduced in the applications in suit find clear (including numerical) basis in the laboratory pages submitted by Dr Powell.

20. I conclude therefore, that the invention which is the subject of the patent applications in suit was made before 31 December 1993. I have not determined the precise contribution of Dr Wilde to the invention, but in the circumstances of the present reference it is not essential to do so. At the relevant time that the invention was made, Dr Wilde was employed by DGP, and by virtue of Section 39 of the Act, inventions made by Dr Wilde in the course of his normal duties belong to DGP. This he did not dispute. As I have already mentioned, on 1 January 1994, DGP's intellectual property rights were transferred to APL, who subsequently relinquished any rights in the present invention to ICI. In this regard, I observe that the letter relinquishing the rights on behalf of APL was signed by Dr Wilde, who, according to his evidence was not an employee of

APL, but merely a shareholder and external consultant.

### **Other Matters**

21. For completeness, there are perhaps some other issues that were argued before me and to which I should therefore make reference.

22. Firstly, there is the matter of Dr Wilde's exact status vis-a-vis APL after 1 January 1994 and the matter of whether or not ICI were aware of his change of employment status. Whilst, in view of my decision as to the date of the invention, I do not need to make any finding in this respect, the evidence would suggest that Dr Wilde was not altogether open in this regard (at least in his formal dealings with ICI) and certainly at least to the end of January 1994 was to all intents and purposes acting for APL under the title 'Technical Director', as evidenced by the letter of 28 January 1994 which he signed on behalf of APL.

23. Secondly, Dr Wilde asserted that the fact that ICI had asked him on a number of occasions to sign documents as an inventor implied that he had ownership rights. Mr Dee refuted this, saying that the signatures were necessary to meet the requirements of the law, *inter alia* in Canada and USA, where the application needed to be first filed in the names of the inventors. It was merely a formality that was required to be exercised in respect of those countries and not an acknowledgment of rights as a co-proprietor. Indeed the same had applied to ICI's own employee inventors. I agree with Mr Dee in this regard. What is not so clear, however, is the intention of a letter dated 28 June 1996 to Dr Wilde from Mr Dee on ICI headed paper and which contains the statement "*your help in getting the formal assignment document properly executed would be much appreciated*". Mr Dee explained that this may have related to a formal internal ICI assignment that would have been signed by ICI, APL and all three inventors. It did not suggest any special status on Dr Wilde's part other than that which he already had as an inventor because at that time ICI thought he had been an employee of DGP then APL and, hence, no issue of him having personal ownership rights arose. Whilst I am not at all clear as to the purpose of this document, I do not see that in the circumstances that it unambiguously implies any ownership rights to Dr Wilde, even if I had not already found that the invention had been made prior to his ceasing employment with DGP.

24. Thirdly, Dr Wilde raised the issue of the aforesaid 28 June 1996 letter promising him a



licence on favourable terms. Mr Dee denied that this had anything to do with any rights Dr Wilde may or may not have had in the patent applications in suit. I do not see that this adds anything to Dr Wilde's case.

### **Conclusion**

25. I therefore decide that Dr Wilde has failed in his application to be named as joint applicant in patent applications GB9406423.5 and PCT/GB95/00554, and accordingly in any other applications based on or claiming priority from these applications.

26. I have not been addressed on the matter of costs, and ICI have not requested their costs. In the circumstances, I make no order as to costs.

27. As this decision does not relate to matters of procedure, under the Rules of the Supreme Court any appeal must be lodged within six weeks.

Dated this 29th day of July 1998

**G M BRIDGES**

Superintending Examiner, acting for the Comptroller

**THE PATENT OFFICE**