Patents Registry

Intellectual Property Department

Hong Kong SAR Government

Patents Examination Guidelines

Section 10: Unity of invention

General principles

10.1 Section 78(1)(d) of the Ordinance requires that the claims contained in the specification of a patent application or of a patent must relate to one invention or to a group of inventions that are so linked as to form a single inventive concept. The second of these alternatives, i.e. the single-concept linked group, may give rise to a plurality of independent claims in the same category or in different categories.

10.2 Section 53A of the Rules provides that inventions must be treated as being so linked as to form a single inventive concept where there exists between/amongst the inventions a technical relationship which involves one or more of the same or corresponding "special technical features", i.e. technical features that define a contribution that each of the claimed inventions, considered as a whole, makes over the prior art. The determination is made on the contents of the claims as interpreted in light of the description and drawings (if any).

10.3 In most cases, the lack of unity will be apparent and can be established without consideration of the prior art ("*a priori*"). However, in some cases it may be determined after taking the prior art into consideration ("*a posteriori*").

10.4 The determination of whether or not a particular technical feature constitutes a "special technical feature" is made with respect to both novelty and inventive step. Therefore, documents cited under section 9B(3) of the Ordinance should be disregarded in the evaluation of unity of invention, since they are not to be considered

in deciding whether there has been an inventive step in the invention under examination.

10.5 Generally, unity of invention is considered in relation to the independent claims in an application and not the dependent claims. However, where a claim appears to be dependent in its form but is in fact an independent claim in substance, it will be assessed for unity of invention. Moreover, where the feature as defined in an independent claim does not avoid the prior art or the independent claim appears not to be patentable, the question whether there is still an inventive link between all the claims dependent on that claim needs to be considered.

Examples concerning unity of invention

Combinations of different categories of claims

10.6 Unity of invention in combinations of claims in different categories (e.g. process, product, use, and apparatus) is to be determined on a case-by-case basis, taking the merits of the individual cases into account.

Examples of permissible inclusion of combinations of different categories of claims in the same application:

(a) in addition to an independent claim for a given product, an independent claim for a process specially adapted for the manufacture of the said product, and an independent claim for a use of the said product;

(b) in addition to an independent claim for a given process, an independent claim for an apparatus or means specifically designed for carrying out the said process;

(c) in addition to an independent claim for a given product, an independent claim for a process specially adapted for the manufacture of the said product, and an independent claim for an apparatus or means specifically designed for carrying out the said process.

Markush claims

10.7 Markush claims are a means of claiming functionally equivalent entities for one or more of the features of an invention. They are most frequently used in referring to inventions relating to chemical compounds consisting of a core structure with "R groups" which represent a range of possible similar or technically equivalent alternatives attached to it while retaining the same properties, e.g. biological activity.

10.8 Markush claims are acceptable in the Hong Kong SAR as such type of claims were previously enforced successfully in the local appellate court case of *Bristol Myers Co and Others v Beecham Group Ltd* [1968] HKLR 70 where the then Supreme Court of Hong Kong ruled there was a prima facie case of infringement of the ampicillin patent with the Markush claims by the importation of hetacillin, an acetone adduct of ampicillin.

10.9 The requirement of a technical interrelationship and the same or corresponding special technical features as defined in section 53A of the Rules is considered to be met when the alternatives are of a similar nature. For guidance, the PCT Guidelines ~~for International Search and Preliminary Examination (hereinafter the "PCT Guidelines")~~ set out that compounds are regarded as being of a similar nature where the following criteria are fulfilled:

(a) all alternatives have a common property or activity, and

(b) a common structure is present, i.e., a significant structural element is shared by all of the alternatives, or in cases where the common structure cannot be the unifying criteria, all alternatives belong to a recognized class of chemical compounds in the art to which the invention pertains.

10.10 The PCT Guidelines also stipulate that the fact that the alternatives of a Markush grouping can be differently classified shall not, taken alone, be considered to be justification for a finding that there is a lack of unity of invention in the relevant claim. If it can be shown that at least one Markush alternative is not novel over the prior art, our examiners shall reconsider the question on unity of invention.

However, reconsideration does not necessarily imply that an objection of lack of unity of invention shall be raised.

Intermediate and final products

10.11 In the context of intermediate and final products, the term "intermediate" is intended to mean intermediate or starting products. Such products have the ability to be used to produce final products through a physical or chemical change in which the intermediate loses its identity.

10.12 Unity of invention is considered to be present in the context of intermediate and final products where the following two conditions are fulfilled:

(a) the intermediate and final products have the same essential structural element, in that:

(i) the basic chemical structures of the intermediate and the final products are the same, or

(ii) the chemical structures of the two products are technically closely interrelated, the intermediate incorporating an essential structural element into the final product, and

(b) the intermediate and final products are technically interrelated, this meaning that the final product is manufactured directly from the intermediate or is separated from it by a small number of intermediates all containing the same essential structural element.

10.13 Unity of invention may also be considered to be present between the intermediate and final products of which the structures are not known – for example, as between an intermediate having a known structure and a final product the structure of which is not known, or as between an intermediate of unknown structure and a final product of unknown structure. In such cases, there should be sufficient evidence to lead one to conclude that the intermediate and final products are technically closely interrelated as, for example, when the intermediate contains the same essential

element as the final product or incorporates an essential element into the final product.

10.14 For further guidance, the PCT Guidelines set out other considerations for determining whether or not an objection on unity of invention should be taken:

(a) Different intermediate products used in different processes for the preparation of the final product may be claimed provided that they have the same essential structural element.

(b) The intermediate and final products should not be separated, in the process leading from one to the other, by an intermediate which is not new.

(c) Where different intermediates for different structural parts of the final product are claimed, unity of invention should not be regarded as being present between the intermediates.

(d) Where the intermediate and final products are families of compounds, each intermediate compound should correspond to a compound claimed in the family of the final products. However, some of the final products may have no corresponding compound in the family of the intermediate products so that the two families need not be absolutely congruent.

10.15 As long as unity of invention can be recognized by applying the above interpretations, the fact that, besides the ability to be used to produce final products, the intermediates also exhibit other possible effects or activities shall not affect the decision on unity of invention.

10.16 Whenever unity of invention is found to be lacking in a patent application, our examiners will request the applicant to amend the application or file one or more divisional applications to meet the requirement of unity of invention.

10.17 Examples illustrating the application of the principles of unity of invention are set out in Chapter 10 of the PCT Guidelines for further reference.