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FINE CHEMICALS

## State of play

### Consultant Jan Ramakers looks at developments in the fine chemicals industry

Fine chemicals, speciality chemicals and performance chemicals are some of the various names used to describe products in the high-value end of the chemicals market. In order to avoid any confusion it is good to keep in mind that fine chemicals are defined as (high value) chemical products that are sold for what they are, i.e. for their precise chemical structure. Speciality chemicals, often also referred to as performance chemicals, are (high value) chemical products that are sold for what they do.

Thus, an intermediate used in the manufacture of a specific API is a fine chemical, as it needs to have a very specific chemical structure; a different chemical structure cannot be used. A plastic additive used as a UV stabiliser is an example of a speciality chemical. Its precise chemical structure is less relevant as long as it performs the specific task it is meant for. A chemical with a different structure may be able to do the same task.

Fine chemicals are used across a wide range of market segments and it is easy enough to make a list that features 40-50 different application areas.

The products end up in speciality chemicals markets, for instance as active ingredients in biocide formulations, as additives for plastics and coatings or as active ingredients in cosmetics and toiletries. Some are used as intermediates in the manufacture of liquid crystal displays, and so on.

Many of those end markets are quite large, but most of them are fairly small as an outlet for fine chemicals. Between them they account for some 14% of the fine chemicals market.

Larger markets for fine chemicals include agrochemicals, dyes and flavours & fragrances. Agrochemicals and flavours & fragrances each represent some 8% of the value of the total market. The pharmaceuticals industry, however, has been by far the largest market for fine chemicals for a long time.

Some 12 years ago the pharmaceuticals industry was responsible for just over half of the fine chemicals market. Because pharmaceuticals have enjoyed significantly higher annual growth rates than the other consumers of fine chemicals for many years, their share of total consumption increased to 66% in 2009 (Figure 1).

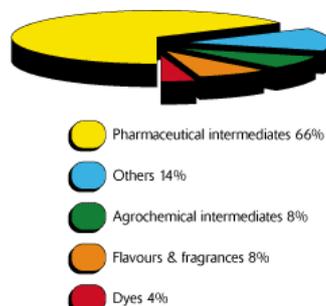


Figure 1 - Fine chemicals market by end use, 2009

Source: Jan Ramakers Fine Chemical Consulting Group

In view of the anticipated market developments of the various segments in the coming years, it is likely that pharmaceuticals will account for more than 70% of the fine chemicals market by 2014. By that time the life science sector – human and veterinary pharma and agrochemicals – will purchase more than 75% of all fine chemicals.

The massive market share of pharmaceuticals means that the trends and developments in the pharma market largely determine what is happening in the fine chemicals industry. In the remainder

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of this article, we will look at the main trends in pharma and what they could mean for fine chemicals.

In the 1990s, the annual growth of the pharmaceuticals market was often in double digits. Gradually however the overall growth figures came down to the current level of about 6–7%/year (Figure 2).

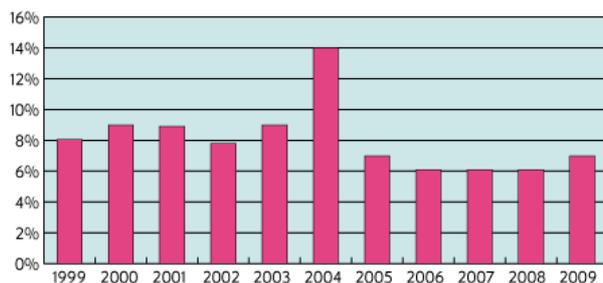


Figure 2 - Growth of the pharma market since 1999

Source: Jan Ramakers Fine Chemical Consulting Group

It is interesting to note that the effects of the credit crunch on the global pharmaceuticals market appear to have been limited, as overall market growth did not drop off. It is fair to say however, that the credit crunch has had some effects on the R&D side of the pharmaceuticals industry.

Some segments of the pharmaceuticals market are showing annual growth rates that are well above the general average. One of those is high potency drugs. Currently drugs with a high potency API are estimated to represent more than 12% of the total market value. During the next few years, the annual growth of this segment is forecast to be well above overall market growth.

The manufacture of high potency compounds requires specialised production equipment and, because of the very low exposure limits of the compounds manufactured, the barrier requirements to prevent anybody from coming into contact with the products are very strict. Needless to say, the right equipment and physical barriers alone are not enough; training and attitude of the people running and operating the plant are even more important here than in other areas.

So far, the number of fine chemicals companies involved in the manufacture of high potency products has been limited. Because of the higher growth rates the segment does attract a lot of interest from companies that consider entering this market.

Another segment with a significantly higher growth than average is biopharmaceuticals, i.e. where the manufacture of the APIs requires at least one biotechnological step. That can be anything between a fermentation and mammalian cell technology.

The growth of this segment is estimated to be in the 12-15% range for the coming years, giving a market value of around \$180-200 billion in 2014. Currently the market for biotechnology drugs is estimated to be similar in size to the market for high potency drugs. Together, they are set to grow to some 30% of the total pharmaceuticals market in 2014.

Many of these biologicals are developed by specialist biotech companies. After initial development, such companies often license out their new products to Big Pharma companies for further development, making use of the economies of scale that these partners can offer.

Many of the larger fine chemicals companies have invested in biotechnology (mostly in fermentation), either through acquisitions or self-funded R&D and commercial plants. The relatively high investment needed to be able to use mammalian cell technology has kept all but a very few of them away from that technology.

Generics is the third segment of the pharma market that has shown above average growth over the last few years, due to the large number of blockbuster drugs that lost patent protection in recent years. As more large products are about to lose patent protection in the coming years the growth of the generics segment is likely to continue at an average rate of 10-12%/year.

In addition to 'small molecule' APIs, the first biosimilars (generic biologicals) are appearing on the market. The growth of generics is also fuelled by regulations in countries around the world that promote the use of generics instead of originator drugs where possible, as part of the effort to keep the cost of health care under control.

The continuing growth of the pharmaceuticals market will provide further growth options for the fine chemicals industry. High growth does not necessarily mean high profitability, though. In 2004, for instance, when the growth of the pharmaceuticals market was 14%, the operating profit of 75% of the top 40 producers of life science intermediates was less than 10% of sales. For 40% of them, it was below 5% or they were suffering a loss.

By 2006, the profitability levels of the life science intermediates industry returned more or less to what they were at the start of this decade. In that year, close to 60% of the companies in the top 40 had an operating profit of 10% of sales or more.

Fine chemicals are driven mainly by the developments in the pharmaceuticals market, as mentioned before. Adverse market conditions in many of the 'other' fine chemicals market segments during the credit crunch were compensated by continuing growth in the pharmaceutical market as well as in the agrochemicals market. As a result, the overall fine chemicals market continued to grow during the global economic downturn.

Although market growth was largely maintained, profitability levels dropped off significantly. In 2009 close to 50% of the top 40 fine chemicals producers had an operating profit of less than 5% of their fine chemicals sales, or suffered an operating loss. More than two thirds of the top 40 had an operating profit of less than 10% of sales.

Going forward it is expected that profitability levels will gradually return to more normal levels. However, fine chemicals companies with a large exposure to the generics market are especially likely to face continuing pressure on their profitability levels.

During the past few years an increasing number of large pharmaceuticals companies have announced plans to outsource more of their manufacturing to the fine chemicals industry. With the increasing complexity of the chemistry and technology involved in the manufacture of the newest generations of APIs, it makes sense to source those products from the specialists: the fine chemicals industry.

The increased outsourcing obviously creates opportunities for the fine chemicals industry because it increases the merchant market for pharmaceutical fine chemicals. This should not be confused with additional overall market growth, however. The additional products that are going to be outsourced because of the increased outsourcing level of the pharma industry used to be made in-house by them. Therefore the increase of the merchant market is compensated by an equal decrease in the captive market.

Because of the increased outsourcing, in-house fine chemicals equipment will be freed up and it is very likely that the pharma companies will try and divest the plants to the fine chemicals industry too. In that case, both the merchant market and the merchant capacity will grow at the same time and overall capacity utilisation across the industry will remain more or less unchanged. Looking at the overall picture, certainly in the mid-term future more outsourcing should benefit the fine chemicals industry.

The fine chemicals industry remains as fragmented as it has always been and even the leading producers have a market share of only about 3%. M&A activity has been low during the economic downturn but more recently the number of fine chemicals businesses (companies or parts of larger companies) that are available for acquisition seems to be on the increase. It is interesting to note that the interest of private equity companies in acquiring businesses in the fine chemicals segment is growing.

As always there are threats for the industry, such as the growing number of new fine chemicals suppliers from non-traditional areas like India and China. However, going forward the industry should be able to benefit from the developments in the pharmaceuticals industry, especially those fine chemicals companies that are working in close partnerships with their customers. That is what is required, now more than ever.

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