In 2008, Dr. Wolfgang M. Doerner, founder of Synazo e.K. was interviewed on market of water soluble Azo intitiators in Europe. He also explains the situation on innovative packing solutions.

"Through inhouse development of supply solutions for our chemicals, we have taken a significant step forward in creating a leading specialty chemicals company in our field."

Q: Dr. Doerner, could you please let us know about the history of your company?

WMD: I started my first company[1] for specialty chemicals in 1996. There was a factual monopole in water soluble Azo initiators with only one supplier from Japan. All major customers except one have been European based companies. Consumption was not attaining 3 digit tpa range here in Europe, and much less in the USA and Asia. There were only few customers in the tons range. Actually, there was a decline in consumption as well, partly due to high price of product, and efforts in industry to change recipes and replace initiators. Challenge A consisted in finding another source for these products, and do so quickly. I had sourcing activities in Germany as well, but apparently volume was too small for custom manufacturing in times of great pressure from authorities on chemical production here. I tried Romania, even Russia, due to contacts to a former Minister of R&D from there. Probably too early then. We finally found a partner who still needed 3 years to ramp up production to commercial levels.

Q. If you sorted out challenge A – what was challenge B then?

WMD: The key objective then was to bypass negative effects from a patent from Wako (on granulation of product - this patent expired 2008). Granulated product is almost dust free, very important for safe handling in production. Water soluble Azo initiators do not carry too many inborn risks but are irritant as they consist of hydrochloric salts. But it was very clear to me that I will not violate an existing patent.

Q: How did you solve the issue then?

WMD: Simply R&D. It was through inhouse development of supply solutions for our chemicals that we have taken a significant step forward in creating a leading specialty chemicals company in our field."

[1] Chemiehandel Dr. Wolfgang Doerner (predecessor of Synazo e.K.)

Some options where use of binders, but this was not well accepted at customers. Supply in solution was not recommended as product would deteriorate over time. After all, the Azos are built for that purpose. I even considered local supply systems at customer site where solutions are formed on locations. An idea coming from ultrapure electronic chemicals which often are generated on site. Concept was skipped for economic reasons. I focused on special packings then - always in close feedback with my customers of course. For example, I developed and supplied material in mini-big packs...

Q: What is a mini big pack?

A: The same as a big pack, just smaller in dimensions. We offer 25 and 20 kg packings where a normal big pack is usually 1 cbm in volume, more or less a ton. Unfortunately, our products are very efficient, and consumption is much smaller....

Q: Dr. Doerner, one issue in the products you supply concerns a special packing of the chemicals: sealed bags made of water soluble material (Polyvinyl Alcohol). Could you explain that a little?

WMD: As mentioned, crystalline product inevitably forms dust on handling. Not good if product is hazardous. Supplying product in a closed delivery system is giving a very elegant way of use to the customer. Big pack is one way – but you still get some dust. Using a sealed package which disappears only inside the reaction tank is an option, and a good one. Many chemicals have been supplied in such packings in those days already. Carbon, aluminium, biocides...

Q: When did you first sell material packed in water soluble bags?

WMD: The first commercial sales with water soluble Azo initiators started in 2002. Our customers for this kind of packing had been contacted 5 years before that date already.

Q: Why didn't you start any earlier?

Lack of material. As mentioned, ramp up at production took some time. The complete volume before that date went into production lines less sensitive. And: even in 2000, the feedback we received from customers was rather negative on any additional material to be carried into the system. We understood our customers' interest in getting the initiator as pure as possible. It took us some time to convince them of three facts: a) the technique is well established, b) the bag, in terms of weight, is neglectable compared to the product it contains, and c) the polymers the bags are made of could also have a positive influence. Binding of metal ions otherwise acting as reaction inhibitors could be one of them.

Q: Why didn't you go for a patent then?

We have checked possibilities for a patent initially, of course. On literature research we found quite some older systems of chemicals packed in water soluble bags. Companies supplying water soluble bags explicitly advertised their use for hazardous chemicals as early as 2000. Even in retail market: consumer products had been already packed into water soluble bags as well. We did not see any innovation in replacing chemicals involved there, and call it a new patent. An understanding which was also backed up by professional experience from patent attorneys. Which, by the way, was one reason for us to work without any secrecy agreement on the subject, and

freely communicate this type of packing to customers, producers and service companies in between. The universe of users of Azo initiators is still small but has been even smaller in the years 1996 to 2002, and we have well covered the complete scene. After all, we already started as best experienced specialists in the field. I had been with the monopolist in Europe before.

Q: There is an issue on a patent covering exactly these products and this kind of packing. The party waiting for this patent being granted in Europe has even taken another measure in deriving a Gebrauchsmuster (registered design) from the patent. How did this affect your business?

A: Lets first take a look at Gebrauchsmuster as such. A Gebrauchsmuster is a speciality in Germany: quickly to get, still valid. One must understand that getting a patent granted is a time consuming issue. If you really want to quickly stop somebody from doing what you invented a Gebrauchsmuster is a good tool in Germany. So we have been informed about existence of a Gebrauchsmuster with similar content as the patent application. This could have stopped our business in our own development immediately.

Q: So what did you do?

Prior use. We had no other choice but to demonstrate invalidity of such Gebrauchsmuster to authorities as we started earlier. In fact, struggle was short, and the other party drowned with all hands. The Gebrauchsmuster was denied.

Q: One last question: why did you not yet file opposition against the patent as well?

A: Tactically, the most vulnerable time of a patent is just after granting. We will file opposition for sure - if it ever comes that far. The other party knows that we developed the delivery system by ourselves, it knows we marketed it to the few existing customers well before the patent was applied for, it even knows our producer in Asia in 2002 already knew about our delivery system. So far we do not see an acceptable signal of cooperation. Not a good base for claiming an invention after someone else already placed it well on the market.

Q: Thank you very much!