



It's all in the chemistry



By Samantha Schelling

Press chemicals are becoming “nicer” for people to work with and to the environment. But it’s a natural evolution as the industry matures rather than a push by environmentalists or legislation. Samantha Schelling spoke with several suppliers and manufacturers for their views.

John Shallvey is constantly amazed at the age of people with whom he has most success when talking about chemical efficiencies through technology, rather than “the old ways”.

“They’re generally always under 25,” the national sales and marketing manager for Hurst Graphics Australia says.

Despite being “crustily older than that”, John was an initiator of Hurst’s maxim “less is best. Our stance, reflected in much of our literature, is along the lines of ‘nothing ever gets buried, burnt or thrown away, it all goes somewhere’. Whether it goes into the atmosphere, land fill or down a river, that is really what we are encouraging people to look at.”

In simple terms, most volatile organic compound (VOC) emissions are from isopropyl alcohol (IPA) and washes, so the notion of reducing IPA and encouraging the use of lower or non-VOC emitting washes should be the aim.

“An example is with fountain solutions and some washes: if you used to use 100 drums per year, why don’t you look at a technology which is far more efficient and maybe you only need to use 60 or 70 drums a year? A direct consequence of that is 30 or 40 fewer tubs go into land fill, 30 or 40 fewer tubs of chemistry are evaporated off into the atmosphere or up our noses or down into a water supply.”

Graham McKenzie, chief executive of DS Chemport, agrees the trend in press chemistry is towards more environmentally friendly products. But he makes the point that “environmentally responsible” is perhaps a more valid term.

“DS Chemport is trying to develop products that are more attuned to the trends generally with environmental issues,” Mr McKenzie said.

“Responsible” is a word with which John Shallvey is comfortable. He believes changes in chemistry are a result of industry maturation and “accepting our responsibilities”.

Factors

So what factors are influencing chemistry changes? Besides the obvious pair of economy and performance, others include machine automation and speed, quicker drying and faster turnaround times, the wellbeing of both printers and the environment — encompassing Occupational Health & Safety — different blanket and roller compounds and different dampening systems.

Jason Kent, national sales manager of GSB Chemical, said WorkSafe is a big driver, a point backed up by John Shallvey and Bryan Larkins. Bryan, who is heading up Ferag’s Graphix Flash unit, said, “Over the next few years, there will be more emphasis on a safe workplace. Developments are to environmentally friendlier chemicals, especially in Europe, and I think it will continue to grow here as well.”

Jason said, “A lot of customers now approach us, saying WorkSafe has come through, had a look at what they are doing in their factory and then they come to a company like us and try to improve on what they are doing on the chemical side of things.

“We try to offer better alternatives to some of the old favourites — products like Quick Clean, mineral turps, X55 and the like. We try to offer better alternatives, to get away from flammable products where possible. Non-flammable blanket and roller washes are now a lot more popular than they were in the past, and so we are always trying to source raw materials that will be less harsh on the environment.”

Jason said a major focus of new chemistry is not necessarily to be less harsh on the environment, rather less hazardous for the user. He said WorkSafe generally concentrates on products with very low flash points, meaning they’re highly flammable.

“At the moment, the WorkSafe push is big. I reckon we’ve had two phone calls just this week in relation to that, where customers have said WorkSafe has told them to try to get away from a certain product and what can we do to help.”

Jason said GSB Chemical has done a lot of R&D work lately in the heatset web area, coming up with fountain solutions that eliminate the use of alcohol — “very much a big issue these days”.

“Although alcohol-free fountain solutions are not new, we have been working hard to vastly improve on what they were. They’re a lot more successful these days.”

Allan Roberts, director of Prolith International, also pointed to worker safety and comfort. “We have had more environmentally friendly chemicals on our books for a long, long while. The trouble is, when you get outside of flammable liquids into ones that are non-flammable, they dry slower. Printers don’t like that; they are used to fast drying. So it is not so

much the technology isn’t there — it is there — it’s a matter of an education to the printer, and in Australia, in my opinion they are not really ready for this yet, or not even interested in really looking at it. In the very, very small shops like your quick copies, yes, because they are working in relatively ‘office’ environments; in your normal commercial printer, no.”

Allan put this down to smell. “With the fast-drying products, obviously they have got to get out into the atmosphere, and whether you can smell it or not, you are still breathing it in. Even with these so-called ‘environmentally friendly solvents’, there is still some escape in the air, it is just a matter of degree. These environmentally friendly ones are just a bit safer to use.”

Prolith’s main market is commercial sheetfed printers and some continuous stationery printers. So as far as trends are concerned, Allan concurred with a trend towards friendlier chemicals, but cautions it is a slow process. He cited the lean to lowering IPA as strongest.

Paul Jackson, MD of Applied Pressroom Technologies, also sees a trend towards lowering IPAs and VOCs. “Most of our clients have found that they can easily reduce their IPA by using our fountain solution without any press changes such as having to change rollers. We recommend that you do change your dampener roller to get a wider operating window, but we have found on some presses even that’s not necessary — they can run alcohol-free just using the fountain solution. This has been proven on some of the most difficult dampening systems.”

Paul said most printers were sceptical before trying the fountain solution, but they are pleased with the result. For Paul, who is proud APT’s chemicals are Australian made, that means the Australian market is not closed minded about trying new chemistry that is “environmentally friendly”.

“One of our printers cancelled his EPA licence. He uses our fountain solution and our Hydro Wash and consequently has no VOCs in his workplace. The EPA couldn’t believe it. In fact, he has won government jobs because his plant doesn’t use IPAs or VOCs.”

VOCs

As far as VOCs go, Paul is very happy an APT product, a Hydro Wash, can be washed down the drain — literally.



it's all in the chemistry cont...

"We're happy to say on record that Sydney Water has tested it and found it environmentally friendly," Paul said. "However, they won't put it in writing because they said they've found such documents have been abused in the past."

Grant Churchill, MD of AE Hudson, said AE Hudson hasn't changed its range rapidly to low-VOC chemistry because it has been moving in that direction for some time.

"I haven't really noticed any increase in demand for lower-VOC product. But maybe that is because we are in the offset market more than flexo and others, where the more volatile chemistries are used. Our washes and so on that we offer for offset tend to be reasonably low-VOC products.

"Even the move to low-VOC inks in the offset market has never really had a great deal of interest because in oil-based inks the VOCs are pretty low."

Grant said one noticeable point in the chemistry market is ownership changes. "I just see such a change in the chemistry market with acquisitions happening internationally. I think the smaller, more independent people are adapting quickly to the market situation and doing reasonably well. Chemistry, I'm finding, is fairly steady for us, but we are not moving anything new in chemistry."

Brent Stephen, of Day International's Chemical Products Division, which manufactures Varn Press Chemistry, said many manufacturers have attempted to address reducing IPA

as a fount additive in heatset and sheetfed markets.

"Varn's R&D laboratories have achieved a significant amount of development with the co-operation of the major press manufacturers. The common purpose of these founts is to reduce and eliminate IPA in the pressroom."

He said the first step in a VOC-reduction plan is to conduct an "environmental audit", which is something Varn's technical service team does. "Press roller and blanket washes that evaporate quickly are often volatile and classified as VOCs. At Varn, we have a large range of quality press cleaners that are not volatile and make a significant contribution to reducing VOCs in the printing industry. These products generally fall into two categories — vegetable-based washes and non-flammable hydrocarbon-based washes.

"Regulations vary around the world and certain products are developed to meet the strict requirements of these countries. Vegetable-based cleaners are popular when biodegradability is also a requirement. However, the second category of products, hydrocarbon-based washes, is more popular due to the availability of raw material, compatibility with rubber rollers and blankets and high ink solvency. These types of products are also preferred by press manufacturers for use in automatic washing systems."

Brent said the development of new-technology chemistry is vital to help printers remain competitive, while still being "clean". He said Varn Press Chemistry, "a world leader in environmental products",

released several new products at Ipex 2002.

Efficiency means cost too

Hurst's John Shallvey said, "Our stance is 'let's do things efficiently, not worry about the price so much but we'll make the concentration or solutions as best we possibly can to do the best possible job'."

"I'm pretty proud of the Australian printing industry. I don't think that there is anything the Europeans do from a quality point of view that is better than what we do, but it is evident they're just that one step ahead of us as far as moving to lower VOC or non-VOC washes. We seem to have stalled at about 60-61° flash, especially in the newspaper industry, whereas the Europeans have taken it to 80° flash or even 100° plus flash, which really is now non-VOC."

Hurst supplies the heatset, newspaper and sheetfed markets. Its main technology partner is Druck Chemie, most of whose success is from working with other OEMs to achieve the efficiency in press chemicals.

"I think the same goes for IPA reduction or elimination. A lot of companies are doing a lot of good work in getting there, but they go only as far as they can. Maybe the motivation to go that little bit more to actually make it a success is maybe not quite there, or they don't actually know the right way to do it, so we certainly have some good expertise in the group and with some of our technology to actually make it a reality."

"It's the same with press maintenance chemicals. We are trying to encourage people to go away from the harsh, solvent-style deglazes and press cleaners to something that actually works chemically."

Faster presses

DS Chemport's Graham McKenzie said one major push in new chemistry is coming from press changes. "There is nothing much in terms of new [chemistry] technology or products; the printing industry is pretty static at the moment. Basically, we are upgrading our products because of faster and faster printing presses — that has changed the dynamics somewhat. Our products have to withstand a lot harder wear and tear."

Graham said products for CTP applications are still evolving. "Regarding new technology, the market is changing quickly to CTP, so we have got to keep up with those trends. We are always working on new products. We are working on new fountain solutions for higher speed presses and so on. We are doing that all the time, but we are probably spending a little

bit more effort on it at this stage than we have in the past, particularly in the web area. We are doing a lot of work on silicone products for the heatset web area, trying to improve performance and so on. Again, these demands have been put on us with higher speed presses."

The future

APT's Paul Jackson said although the trend is to more environmentally and human friendly — or responsible — chemicals, there is an end.

"New environmentally friendly chemistry will get to a point where it won't go any further. That is unless the supplier is working on improving its products by using the best, most up-to-date raw materials — nothing second best. I believe a lot of environmentally friendly products have reached their limit regarding performance. To provide a better product it may involve thinking outside the industry by enhancing the enviro-friendly product in this way. How the future pans out will also depend on how the printer perceives a product to work on his press.

"Whether it will work or won't work, a lot of printers are becoming more and more conscious of what they're using, which is a really good thing, because it keeps the suppliers on their toes to make sure they are providing the best raw material and the best product to the industry.

"I hope that eventually we eliminate the use of IPA everywhere, and that we all run totally alcohol free, because not only is it better for the printer and better for the industry, it is better for the environment."

Hurst's John Shallvey said it's the industry's younger people who think along those lines. "Unfortunately, it only rings people's bells if they're under 25. I'm a printer by trade and I grew up using some really crappy chemicals. Guys older than me say, 'Oh don't worry about it', but if you get a kid who's 25, who has come through the school system, he actually has an ear for what the environmental people are trying to do and they will buy the story more than the crusty old people like myself."

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Waste management

Waste management is an area of increasing concern.

Jason Kent, national sales manager of GSB Chemical, said they have done a lot of work in that area in the past 12-18 months.

"It's a big thing, because the waste generated from washing up a printing press has to be disposed of. Traditionally, there are companies specialising in that area, but a lot of our customers now want us, as the chemical manufacturer, to take on that. They want us to become a total chemical supply and waste management recycling company.

"We have to outsource the recycling, but we've become their one point of call for that whole area."

Jason sees the reasoning for this in tightening of waste-disposal rules.

"In the old days, everything used to go in the dump master — ink tins, dirty rags, everything used to go. Now — it all has to be separated, you have to get someone to come in and you have to pay for it to be taken away.

"It is an interesting area. It is not something we actively pursue, it was something that just cropped up. But it's a logical fit."

Graphix Flash motoring nicely

Ferag's Graphix Flash business is burning the rubber of success.

Bryan Larkins, who heads up Graphix Flash, Ferag's mobile sheetfed consumables unit launched at the end of April, said it supplies a range of press chemicals, tools, print consumables and other items for small to medium-size printers.

"We basically want to be a one-stop shop."

Bryan said the custom-built Mercedes Sprinter is designed "like a mobile catalogue basically; it allows the printer to come on board, have a look at the products, touch and feel them and purchase them on the spot". It has Eftpos, credit card and invoicing facilities on board.

While the main range is from Applied Pressroom Technologies (APT), it can also supply Hurst and Varn products.

"One of the reasons we have gone with APT is because it is relatively not as harsh as some others, so we can carry it on board without endangering ourselves. But we can also get other manufacturers' brands if a printer is locked in or happy with their current suppliers. We don't want to be locked into any one in particular, but APT has given us great support to date so we are featuring its products."

Aside from the press materials, Graphix Flash also has a range of tools, so people can buy a hammer, for instance.

Bryan came up with the idea last August. "I wanted to incorporate e-commerce with it, so it allows printers to tick the boxes of the products that they require, receive pricing and receive the product. The idea came really to create a point of

difference between us and the competition, to provide a different, more comprehensive and more personalised service to the customer, and to allow the products to be accessible and purchased easily."

So far, it's just the one van on the road, driven by Jeremy Thomas.

Jeremy, whose title is mobile consumables manager, likes the personalised approach and likes the job. It's in his blood: since the age of 12, he would help out after school at his father's press chemical company, packing boxes or doing other tasks.

Jeremy said, "This van is successful because we are different. Also, while I'm the driver, I'm not just a guy driving the truck who just takes orders. When a printer rings up for an inquiry and the person can't answer it's very frustrating waiting for someone to call back. The Graphix Flash 1800 number comes straight to me, so I will be able to answer them on the spot.

"All this makes it valuable, it's not just a sales service. The customers appreciate that fact. For instance, a customer rang the other day and placed an order for 2kg of Nescafe Blend 43 coffee, 2kg of sugar and a packet of 48-roll toilet paper. Now we carry those products as well!"

Although the truck is servicing greater Sydney, Jeremy will hit Newcastle once a month. And he can't wait for the expansion.

Bryan Larkins said, "Ferag Switzerland just want to go crazy with it, but I want to make sure this works properly first!"

Jeremy is fielding calls from all over Australia. "I even fielded a call two days ago and sold guillotine blades to Fiji!"