

Pharma manufacturers see Type approval as blister child safety solution

REPRESENTATIVES OF PHARMACEUTICAL MANUFACTURERS AND PACKERS, TOGETHER WITH SUPPLIERS OF MATERIALS AND MACHINERY, MET IN JANUARY TO SEEK ANSWERS TO THE NEW LEGISLATIVE TIMETABLE ON CHILD RESISTANCE OF BLISTER PACKS.

Pharmaceutical manufacturers who pack in blisters remain hopeful that the Medicines Control Agency (MCA) will allow type approval – such as the existing German DIN standard for blister safety – to satisfy the demands of the new BS8404 standard on child resistance of non-reclosable pharmaceutical packs.

Otherwise, the industry fears, the requirement for panel testing the packaging of some 539 products covered by the new rules will overwhelm the limited resources for this type of trial.

With these problems in mind, a cross-section of the UK pharmaceutical industry met in January at the Huntingdon headquarters of Romaco UK to discuss the most practical and sensible approach to implementing BS8404, which will be ushered into law by the MCA.

All areas of the pharmaceutical industry were represented at the meeting, with delegates from ethical, generic and contract manufacturers and packers, the relevant trade associations and machinery, materials and format parts suppliers.

Opening the meeting, Brian Moore, managing director of Romaco UK, said:

“We are all committed to producing pharmaceutical packs which are both child-resistant and senior-friendly. Measures introduced over the last 25 or so years have reduced significantly the incidence of accidental poisonings. The challenge facing the industry is how to achieve child-resistance, while limiting the frustration for the elderly in accessing their medication – a possible consequence of over-ambitious implementation of any new legislation.”

Mr Moore explained that Romaco had decided to host the meeting in an attempt to put together an overall picture of the effects of the proposed legislation on the industry.

“This is a significant measure and while I am sure that the many companies affected will be

making their individual responses to the MCA, we wanted to provide a forum for pharmaceutical producers to hear from the various trade associations who have been working with the regulators on this, as well as to talk to their equipment and materials suppliers about solutions.”

The assembled group estimated that there are over 1000 pharmaceutical blister machines in the UK, many of which have been installed in the last decade as a result of government initiatives to promote original pack dispensing.

No increase in poisoning

According to the Proprietary Association of Great Britain (PAGB), there has been no increase in the rate of accidental poisonings over the years, despite the increased use of strips and blisters.

The success of the blister, the meeting was reminded, is based on advantages which include:

- Improved patient compliance – notably calendar packs.
- High product stability and protection – particularly for hygroscopic or friable tablets.
- Convenience and ease of use.
- Tamper evidence.
- Hygiene.
- Opportunity to provide distinctive branding/graphics for visual product identification.
- Low cost – especially for small packs.
- Unit dose delivery.
- Ease of incorporating patient information.
- Limited access to contents.

Since 1989, most of the pharmaceutical industry has adhered to a code of practice designed to give blisters a degree of child-resistance. This incorporates measures such as the use of opaque substrates and limiting pocket sizes to minimise rattle.

The current moves towards legislation were prompted by an incident of child poisoning in September 2000, which is believed to have involved products in a non-opaque blister.

BS8404 could be implemented as early as October this year, although pharmaceutical industry representatives at the meeting reported serious reservations about this timeframe, given the amount of development and testing required.

A further concern is the imminence of EU legislation, a draft of which is currently being voted on by Member States. Once implemented, this will supersede any national laws, raising the possibility that pharmaceutical manufacturers will have to repeat the exercise to ensure EU compliance in the foreseeable future.

The meeting heard from Dieter Janek, who was one of the pioneers of blister packing, having joined machinery manufacturer Uhlmann in 1963. He explained that the concept of child-resistance in blisters began in the US in 1970 with the Poison Prevention Packaging Act.

This produced many variations of the blister, including some which are extremely complex, both to produce and to open. As a result, only 20 per cent of products in the US are packed in blisters and the vast majority of these are oral contraceptive pills, which are rarely if ever implicated in accidental poisoning.

Germany has had a DIN standard for pharmaceutical packs in place since 1979, which features more user-friendly solutions based primarily on variations in the lidding material and the use of perforation. Specifications were discussed at the meeting for both push-through and peel-push blisters, which appear to have achieved their aims, indicating that less extreme measures than those in the US are in order.

The commitment to maximising child safety notwithstanding, wide-ranging concerns about the practicability of the legislation as currently proposed were raised by those present.

For example, there is just one laboratory in the UK equipped to carry out child panel tests and its

maximum capacity is 50-60 tests a year, covering both reclosable and non-reclosable packs. With up to 200 children aged 42-51 months and 100 adults aged 50-70 involved in each potential test, the requirement for test subjects is potentially quite huge.

Changes to the packaging of pharmaceutical products require an amendment to the product licence to be submitted to and approved by the MCA. According to the MCA's own statistics, there are currently 140 Marketing Authorisations (MAs) for aspirin products affecting 52 Marketing Authorisation Holders (MAHs), 348 MAs for paracetamol products affecting 87 MAHs and 51 MAs for iron products affecting 30 MAHs. The time and resource required to process up to 539 licence variations, as will be required by the new legislation, will be considerable.

The products covered by the potential legislation – aspirin, paracetamol and iron – are in many cases extremely low-margin. According to the delegates at the meeting, there is a real danger that the additional materials cost (as yet unclear but estimated to be in the region of 30-40 per cent) coupled with lower outputs could render some products uneconomic.

Legislation introduced a few years ago speci-

fied pack sizes of eight and 16 units for OTC packs of aspirin and paracetamol and most of these are blisters because at this pack size, it is the only cost-effective solution.

Whatever solutions for child-resistance are implemented, the probability is that blister sizes will increase. Most manufacturers present felt that, pending further guidance from the MCA, the German model – involving higher gauge or different substrates and perforation of lidding foil – is most likely to be followed.

Increase in blister size

Accordingly, the minimum workable space between pockets will be doubled and for some base substrates the pocket angle will need to be shallower, contributing to a significant increase in overall blister size. Material costs downstream as well as on the blister machine will increase, with larger cartons and cases required. This will impact right through the supply chain, affecting transport, storage and distribution functions for both suppliers and retailers.

Use of alternative or higher gauge substrates will reduce line speeds through increased heating, forming and sealing dwell times. For example, a typical blister machine can run at 100

cycles a minute with PVC, a figure reduced by 30-50 per cent if polypropylene is used instead.

Every pharmaceutical product must be put through stability testing to ensure that its packaging will provide adequate levels of protection and preservation for the duration of its declared shelf life. These may be carried out either in-house or through an external laboratory, but the cost per product is typically £20,000.

All of the above means that the potential date for implementation of BS8404 – October 2003 – is of serious concern to producers. Estimates of the time required for material sourcing and testing, stability trials and re-validation of packaging lines vary but typically would be three years. This is without the added complication of limited testing and re-licensing resources.

So companies involved in production and packaging of the affected products find themselves in a difficult situation. Despite the best will in the world, there is no clear way forward, they say, without further guidance from the MCA.

In the light of this, the meeting agreed that the most positive and practical course of action in view of the limited time available was to seek the acceptance of type approval for DIN-standard materials. ■