



# Planning ahead for compliant labelling

From bisphenol A to mineral oils

Constantly changing legislation presents an ongoing challenge to both brand owners and label converters. Regulations arise frequently, such as the REACH deadlines for 2018. There are also consumer-driven campaigns to consider – often involving as-yet unregulated components. This article considers two examples of components relevant to label safety, bisphenol A and mineral oils, one of which is regulated and the other unregulated as yet.

Regulations governing the labelling industry are extensive, and enforced by many different national and transnational bodies. Rules apply to every segment, with sensitive segments such as food and pharma facing the strictest requirements.

Complying with regulations once they are in force is mandatory. Therefore it is important to act in good time and secure a dependable source of qualified materials.



## To act or not to act?

Before compliance becomes mandatory the decision to respond to emerging information on possible regulation changes, or to related consumer-drive social media campaigns, can be a challenge. Even if information and claims are incomplete, or even wildly inaccurate in some cases, brand owners must still sometimes offer an appropriate response in good time, before reputation or sales are impacted.

Above all, staying informed and ahead of the game is essential. By preparing in advance, any required transition to new materials can be straightforward. There can also be some potential competitive gains from adopting early, if a product can be promoted as 'Chem-free'.



## The bisphenol challenge

An instructive example is bisphenol A (BPA), a raw material used since the middle of last century. The chemical has one of the highest production volumes across the world, and most consumers will come into contact with its products one way or another on a daily basis. It is used in the manufacture of some plastics and epoxy resins, including coatings on the inside of food and beverage containers. Most uncoated direct thermal papers contain BPA. Such papers are widely used in the retail segment in applications such as thermal paper receipts and weight scale labels. Note that apart from some uncoated and semi-topcoated direct thermal labels, all other types of pressure sensitive labels in the Avery Dennison portfolio are typically produced without the use of BPA.

The safety of BPA has been studied most notably from the late 1990s onwards, with researchers focusing in part on its weak mimicry of the human hormone estrogen. Public concern grew over time, with a particular emphasis on plastic bottles made for feeding babies, and the potential effects on infants of ingesting BPA.

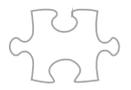
As late as 2010, a World Health Organisation (WHO) expert panel considering BPA concluded\* that “initiation of public health measures would be premature.” Prior to this date, however, brand owners were already hearing and responding to public concerns. Manufacturers of baby products, in particular, were reassuring parents that their plastics were BPA-free.

Avery Dennison responded to the gathering concerns around BPA by offering BPA-free labelling products. The importance of not only responding to but predicting trends is illustrated by the fact that Avery Dennison quickly went on to offer additional products that contained no bisphenols of any kind (BP-free) and also entirely phenol-free products. All of this demonstrates the power of the market, which can anticipate regulatory changes. It was only in 2015 that France finally led the way by banning BPA for direct food contact. Events moved rapidly after that: France went on to propose BPA as a (REACH Regulation) candidate substance of very high concern (SVHC). The regulation that followed\*\* sets a specific limit for BPA content in thermal papers of up to 0.02% bisphenol A (by weight) from January 2020. This limit will lead to BPA being phased out as a component added during manufacture of direct thermal papers and labels. Note that trace amounts of BPA in any type of direct thermal paper are unavoidable, due to post-production contamination from various sources.

In Annex XVII to Regulation (EC) No 1907/2006, the following entry is added:

66. Bisphenol A CAS No 80-05-7 EC No 201-245-8	Shall not be placed on the market in thermal paper in a concentration equal to or greater than 0,02% by weight after 2 January 2020.
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Avery Dennison offers a full range of label solutions that are made without using BPA. Additionally, the Avery Dennison labelling portfolio goes beyond regulation requirements, including direct thermal labels top-coated and uncoated materials produced without the use of bisphenol, and even solutions produced without use of phenol. These direct thermal papers are available in combination with the highest performance and most widely used adhesives for direct thermal applications (including both permanent and removable adhesives in combination with BPA-free thermal paper). Avery Dennison is already well placed to help manufacturers find the best alternative solutions, and to be ready for the 2020 deadline.



## Looking ahead – mineral oils

With the BPA story in mind, it's useful to look at the early concerns that are now starting to be expressed about the potential risks from mineral oil contamination in food packaging. The topic may be gathering pace in the same way as BPA. A 2009 recommendation by the German Institute for Risk Assessment (BfR), is also on record as saying that minimizing mineral oil exposure due to migration from food packaging was urgently needed.

Dealing with the question of mineral oils is more complicated than bisphenol A; BPA is an additive, so BPA-free products can be made by changing the formula during manufacture. Mineral oils, by contrast, are not only used as additives but are also present as a contaminant in recycled materials. They are contained in the printing inks on recycled paper, and so there is a complicated puzzle to solve. On one hand, using recycled materials is desirable for sustainability. On the other hand, we need to find a way to safely use those materials with food packaging (assuming that a risk is confirmed, and this is not yet the case for the low levels of mineral oil present in recycled packaging).

Many mineral oils pose no real threat to human health, and are in fact approved for food contact. The oils being looked at closely for possible health effects are low molecular weight mineral oil saturated hydrocarbons (MOSH) and mineral oil aromatic hydrocarbons (MOAH, including polycyclic aromatic hydrocarbons or PAH).

We are at a relatively early stage with mineral oil strategies, although the EU is now monitoring MOH in food, and in materials and articles intended to come into contact with food. As with BPA, there is a need to plan ahead. Avery Dennison is actively assessing the scale of the issue, working to understand and disseminate new information to converters and end users. We are also monitoring alternative sources of supply – for example, the US is beginning to see some de-inking taking place during the recycling process. Crucially, it is the role of a labelling material manufacturer to predict and anticipate 'what next', so that converters and brand owners are presented with answers rather than questions.

Above all, the Avery Dennison Complete Compliance team is constantly reviewing market and regulatory developments, helping converters to anticipate emerging requirements and to solve their own compliance challenges.

\* <http://articles.latimes.com/2010/nov/11/news/la-heb-who-bpa-20101111>

\*\* <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R2235>

## Your puzzle solved

With Avery Dennison® Complete Compliance

For detailed information including certification and more on food approval see:

[label.averydennison.eu/compliance](http://label.averydennison.eu/compliance)



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Label and  
Packaging Materials

### North Asia

5th Floor, Hongye Park  
1801 Hongmei Road,  
Xuhui District 200233,  
Shanghai, China  
+86 21 33951888

### South Asia Pacific and Sub-Saharan Africa

460 Alexandra Road  
#28-02/03  
Singapore 119963  
+65 6430 7000

### Europe

Willem Einthovenstraat 11  
2342 BH Oegstgeest  
The Netherlands  
+31 85 000 2000

### Latin America

Rodovia Vinhedo-  
Viracopos, KM 77  
CEP 13280-000  
Vinhedo - SP, Brazil  
+55 19 3876-7600

### North America

8080 Norton Pkwy  
Mentor, OH 44060  
800.944.8511