



DMF legislation

Fungicides and mould inhibiting chemicals play an important role in the production and distribution of leather and leather products.

Dimethylfumarate, also known as DMF, has good antifungal properties, and has been associated with mould inhibitor sachets used in finished footwear and furniture. Recently, DMF has been highlighted as being an allergenic sensitizer causing eczema at low concentrations.

It was found that anti-mould sachets were being placed in the packaging, or being stapled to the wooden frame, or directly under the leather covering and, over time, the volatile DMF was evaporating and permeating into the leather. The release of DMF was then exacerbated by body temperature and perspiration, leading to levels adequate to cause sensitization. Anti-mould sachets are often used in conjunction with silica gel sachets, which contain an inert desiccant that removes moisture, but is relatively ineffective in the prevention of mould growth in large leather products. Although silica gel is inert and safe to use, BLC has found cases where the silica has combined with dimethyl fumarate and shown positive results when tested. In most cases, these were labelled as mould inhibitor sachets.

The Law

On the basis of the research findings, France, Spain and Belgium adopted measures to regulate the use of DMF, and to ban the importation and placing on the market of products such as footwear containing DMF. The French Decree also orders the recall of all footwear and furniture products that visibly contain DMF in the product or packaging.

The Biocide Directive - 98/9/EEC - states that a biocidal product can only be used if 'it has no unacceptable effects ... on human health'⁴. Under this directive, products containing dimethyl fumarate are already banned for use in the European Union. This means that biocidal products containing DMF for use in manufacture and production of products within the EU are not legally available for protection against mould growth. However, this legislation does not cover the importation of products such as furniture, from countries outside the EU.

As a result of the severe cases of dermatitis caused by the presence of DMF in seating, the Commission of the European Communities proposed a ban in all products placed on the market. The restriction on use of DMF in products is governed by the Commission Decision 2009/251/EEC, and states that from 1 May 2009 all member states must ensure that any product containing DMF is withdrawn from the market. It also states that as of 1 May 2009, all products must comply with the limit of less than 0.1mg/kg of DMF per product or part of product. This was deemed to be sufficiently below the 1mg/kg level known to cause dermatitis in patch testing, and therefore an adequate limit to address the associated risks.

Currently, there is no internationally recognised standard for the detection of DMF in sachets or leather. BLC has developed a method for detection of dimethyl fumarate and other fungicides with a reliable detection limit of less than 0.1mg/kg.

The ban and recall of products containing DMF is to be policed by individual EU member states, but it is important for importers, manufacturers and retailers to be aware of the risks

and to address any issues raised. Problems, such as dermal irritation, caused by elevated levels of fungicides can lead to brand damage, and can potentially lead to high costs through proceedings with customers. BLC offers a validated analytical method for the detection and quantification of DMF which can be conducted within 5 days or less. BLC advises that due diligence testing of products or parts of products, such as materials prone to mould growth, packaging and silica gel sachets, be carried out. If a failure occurs BLC can offer specialist technical support.

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