

Business Guide to Safer Chemicals

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Taking Care for healthy paint

A Danish producer of paints has become the first to obtain the NGO Blue Label ecolabel for asthma and allergenics

Care 5, a new water-based paint without preservatives and allergenic compounds from Beck & Jørgensen of Denmark, has just become the first paint to obtain Asthma-Allergy Denmark's (AAD) Blue Label brand, according to Mikael Jensen, the firm's environmental manager.

This move was driven in large part by the anticipation of wider developments. Beck & Jørgensen expects to see more information becoming available to consumers about preservatives and allergenic substances through the labelling of products under the EUH208 phrase "Contains [name of sensitising substance]. May produce an allergic reaction".

Under the biocidal products Regulation (BPR), new requirements will come in from next year to inform users about preservatives in products, with no minimum concentrations. In addition, classification limits will change, enabling Echa to reduce the lower threshold.

The company also expects there to be increasing demand for sustainable products. Other paint producers will probably develop similar products and it will be the norm for paints for interior use to have the Blue Label or a similar label in about five to ten years, Mr Jensen believes.

Beck & Jørgensen has been producing paint in Copenhagen since 1892, moving production to a new factory in the north of the city in 1948. All production, R&D and administration is located at this site. In all, there are 85 employees and 16 customer centres across Denmark. The paints are sold mostly to the professional market, though private consumers can also buy them.

"Our owner, Mr Jørgensen, regards environmental issues as very important," Mr Jensen says. (Hence, perhaps, the strapline 'Green paint in any colour') More than 60% of the company's products are ecolabelled; in 1998, it became the first paint manufacturer in Denmark to get the EU ecolabel.

The specific thinking behind Care 5 was that water-based products containing organic compounds – like cleaning agents, cosmetics, wet wipes, and detergents, as well as paints – need to be preserved with different kinds of biocides. However, some consumers can be allergic to these preservatives.

Some products are classified under the CLP regulation as H317 "May cause an allergic skin reaction". If the 10% of the classification limit of preservatives is added, this triggers the EUH208 phrase. "In our case, and for many of my colleagues in this field, we really want to substitute this kind of problematic substance," Mr Jensen says. "But the options here are very limited"

Since 2010, he adds, there has been an increase in the number of allergic reactions, specifically because of methylisothiazolinone (MIT). In 2013, the National Research Centre for the Working Environment proved that MIT evaporates, so the use of any chemical product releases it to the air, raising the danger of exposure.

In 2014, AAD published its criteria for paint. AAD is a membership organisation with approximately 10,000 members. It aims to find products for them that have minimal allergy risk, that avoid certain substances like those with H317 classification and which incentivise producers of chemical-based products to develop products without allergenic substances.

About 1,000 products in Denmark are already labelled with the Blue Label, notably soaps and shampoos. Many of these are sold in other countries as well.

About a year ago, Beck & Jørgensen had a look at its whole regulatory situation, Mr Jensen recalls. The factory was regulated by the authorities with regard to the environment, such as waste water, emissions to the environment and laws covering employees.

The company already had certification to the environmental and safety standards ISO 14001 and

OHSAS 18001, “so we thought we were taking really good care of the environment at that point”. Its products, meanwhile, were regulated by EU legislation, such as REACH, CLP, the BPR and the paints Directive, and also by a Danish regulation specifying the kind of personal protective equipment a painter can use.

“Then we had a look at ourselves and saw that maybe we could improve the working environment for the painters and users of our paints, the indoor climate in the buildings where our products are used and the environment for our own employees, in not having to handle concentrated preservatives.”

In addition, Mr Jensen says, developing a product with the Blue Label was consistent with the firm’s policy of having a strong environmental and sustainability profile. This he says, could only be improved by becoming the first paint manufacturer to with the Blue Label as well as the first to make ecolabelled paint.

The application process began with understanding Beck & Jørgensen’s own paint formulations. These contain 20 raw materials from 16 suppliers. Each contains up to eight different substances, including binders, fillers, pigments, matting agents, thickeners and thinners.

AAD’s criteria say that a product cannot contain any substances that are CLP-classified with H317, H334 (“May cause allergy or asthma symptoms or breathing difficulties if inhaled”), H335 (“May cause respiratory irritation”) and any other known allergens – even if not classified – or perfume. The product must be sent to a laboratory and analysed for the evaporation of substances including ammonia, formaldehyde, volatile organic compounds (VOCs) and semi-VOCs over a period of up to four weeks.

Each raw material must be approved by AAD; if any of them is not, the recipe must be reformulated and the process repeated. When all of them have been approved, the next stage is emission tests. If these are failed, they must be repeated, the reason for the failure established and the offending substance substituted. The final stage is sending in artwork and getting approval.

“In our case, there were two technicians working on the project,” Mr Jensen says. “They made a recipe that we thought could pass the criteria, then I wrote a letter to our suppliers and asked them to fill in the composition of their substances on a form.” If any of the substances were confidential, he permitted them to send the form direct to AAD.

Mr Jensen had thought the process would be simple but, in retrospect, regards himself as naïve. The whole process, including emission tests, took nine months; these tests had to be taken twice, because of the presence of a substance in the raw materials that could not have been foreseen. But for this, he estimates, the process could have taken four months.

“I must say that AAD worked very professionally here. If we had a problem regarding the raw material or the criteria, we normally had an answer the same day or the day after.”

Developing a product with the Blue Label was consistent with the firm’s policy of having a strong environmental and sustainability profile

Care 5 is now approved to carry the Blue Label and was introduced to the market on 6 June. As well as being the first paint to bear the label, it has the same quality as traditional wall paint, the firm claims, but contains no preservatives and allergens and so is not classified as hazardous according to CLP. To date, there have been many positive reactions from customers, Mr Jensen says.

The key things that Beck & Jørgensen have learned that other future developers would need to apply as well, he believes, begin with the right insight into how to solve problems.

“You also need to have a competent technician to make the right recipe and good cooperation – and patience – with your suppliers. It was important to work systematically to get all the approvals of raw materials and, for us, to work in a targeted way, because we wanted to be first with the Blue Label.

“When you are developing chemical products, you have to know the chemical legislation and the Blue Label criteria. Finally, and perhaps a little surprisingly for us, it was important to have internal political support from within the organisation. Normally the technician and I have a lot of other tasks to do, but it was understood internally that these tasks would not be done as quickly as usual because we had to take care of this important project.”

Beck & Jørgensen also hopes to widen the range of Care 5. This cannot currently be made in any other colour but white, because all current colour pastes for tinting machines contain allergenic substances. “We are working on it, so we hope in a year or two to supply other colours as well.”