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STRIVING FOR SUSTAINABLE REPLACEMENT OF BISPHENOL A

On 13 December 2012, the French parliament adopted a bill to ban Bisphenol A (BPA) in food containers: from 2013 for those aimed at young children, and from the start of 2015 for other users. Reducing exposure to endocrine disruptors is also an aim included in the Second National Plan on Health and the Environment (PNSE2), and the National Guidance Service on BPA Replacement (SNA-BPA) must support the transition to alternative solutions. This service is accessible at: <http://www.ineris.fr/substitution-bpa/>. Set up at the end of 2011 at the request of the Directorate-General for Risk Prevention, part of the French Ministry for Ecology (MEDDE), the SNA-BPA site facilitates the access of interested parties – industry players and SMEs that formulate, produce or use chemical compounds involving BPA – to useful resources that could help them with the replacement process. The site offers regulatory news, monitoring of the latest scientific and technical developments, expert reports and analysis of lessons learned from replacement initiatives. From 2013 onwards, it will also provide a discussion forum and online conferences in order to foster dynamic interaction between users and encourage the spread of information. We will be using the site to conduct surveys on replacement solutions, the results and lessons of which will be analysed and published. Several factors come into play when choosing alternative substances and technologies to BPA, including technical, economic, environmental and, of course, health concerns.

On this subject and others, the general principle informing the choice of the materials published will be one of risk reduction. INERIS experts will provide their own answers or those of other stakeholders, and will periodically produce dossiers summarising the available data as well as the remaining unknowns.

However, the SNA-BPA is not intended as a medium for one-way communication. INERIS decided that it had become necessary to create new ways of sharing expertise and lessons learned from experience. The solutions proposed by stakeholders, and their evaluations of these solutions, should be posted online without delay. The fact that a replacement process is long does not prevent the users concerned from supplying information along the way, or, indeed, from contributing to the FAQ section by answering questions to which they know the answers.

Philippe HUBERT
Chronic Risks Director, INERIS

Actualités BPA

Endocrine disruptors: a coordinated international effort. The United Nations' Third International Conference on Chemicals Management (ICCM₃) was held in September. A group of UN agencies, the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) is to prepare an action plan to reduce exposure to endocrine disrupting chemicals. Source: <http://www.saicm.org>

From research to replacement. Researchers from the French National Institute of Health and Medical Research (INSERM) and the Montpellier branch of the French National Centre for Scientific Research (CNRS) have studied the interactions at molecular level between BPA, its derivatives and one of its main targets, oestrogen receptors. When it comes to replacing BPA, the challenge lies in synthesising new compounds that offer the same industrial characteristics as BPA, but without its hormonal properties. Source:

<http://www2.cnrs.fr/presse/communiqu/2781.htm>.

Law on BPA. On 13 December 2012, the French parliament adopted a bill to ban BPA in two phases: from 2013 in food containers for young children, and then from 2015 for other containers.

Source: http://www.assemblee-nationale.fr/14/dossiers/conditionnement_alimentaire_bis

International

KEMI. The Swedish Chemicals Agency (kemi.se/en) has embarked upon a study of two synthesis processes for BADGE (Bisphenol A diglycidyl ether). BADGE is used as a stabiliser and plasticiser in plastic packaging, in clear epoxy lacquers for food packaging, and in coatings for food tins and vats. The study aims to identify a process that produces BADGE that emits less BPA. The Agency is also conducting a field study on the doses of BPA present in drinking water. The objective for the government is to confirm whether or not legislation is required in this area.

Events

IAPRI World Conference on Packaging. June 2013, Finland. <http://www.vtt.fi/sites/iapri2013/?lang=en>

RAFA: International Symposium on Recent Advances in Food Analysis. November 2013, Prague. <http://www.rafa2013.eu>

Online surveys

In order to gather information about BPA replacement (problems and solutions), INERIS will shortly be launching a series of surveys on the SNA-BPA site. Have your say!

Interview

Summary of an interview with **Henri BASTOS, Head of the REACH-CLP Unit and the Substances and Replacement Laboratory at the French food safety agency (ANSES).**

At the end of September 2012, France, via ANSES, proposed a more severe Europe-wide classification of Bisphenol A as "*toxic for reproduction*".

ANSES is currently in the process of drafting a report assessing the risks of BPA. It is due for publication by the end of 2012. On this basis, the French government will take a decision as to whether or not to expand the scope of the restrictions and prohibitions currently in place with regard to BPA.

This study will be followed by examination of the *best possible risk management options* (RMO). Will the procedure have to be developed within the REACH framework? Will other forms of action be necessary, such as displaying the BPA content of products? What types of use or categories of user would be concerned by a REACH restriction procedure?

In terms of potential management measures, the precautionary protection of pregnant women and infants has already been identified as one measure to be taken. The situation of pregnant women who are exposed to BPA in their workplace raises the question of how to instigate effective preventive measures. For example, given that pregnant women are not obliged to tell their employer that they are pregnant, how can suitable protection be organised for them? Aware of the technical, industrial, economic and even social constraints generated by restrictions on the use of Bisphenol A, ANSES has also conducted a specific study on the existing alternatives for synthesising polycarbonates, epoxy resins and thermal paper.

This report, which will soon be available online (see inset opposite), reviews several applications of BPA. To produce the document, ANSES undertook a wide-ranging consultation, notably among industry players. The fact that this consultation elicited fairly little feedback demonstrates the need to involve economic operators in the consideration of BPA replacement options from the earliest possible stage.

Technical dossiers on BPA

Each SNA newsletter will present a technical dossier connected to BPA replacement.

Upcoming subjects include:

- * The ecotoxicology classification of BPA replacements
- * The present state of toxicology knowledge on BPS
- * BPA-free strategies for lining water pipes

Dossier

Uses and possible replacements in items in contact with food (excluding infant feeding bottles).

The goal of this INERIS study is to determine what BPA-based products are used in items in contact with food, and what alternatives to these materials are currently, or will soon be, available on the market.

Polycarbonate, which has traditionally been used in some infant feeding bottles and food tins, is tending to be replaced by other plastics, mainly polypropylene (PP), polyethersulfone (PES), polyphenylsulfone (PPSU), and Tritan Copolyester. Substitutes for the epoxy resins used in food tins and drinks cans are also gradually emerging.

However, it appears that no universal substitute is available at present. Research is still ongoing to verify the safety and reliability of the alternatives.

Alternative packaging for apertured products does exist and can be used in place of tins. For the lids of glass jars and small pots for babies, the challenge of replacing epoxy resin is similar to that faced by food tins and drinks cans.

A PVC film is sometimes used to isolate the food from the resin in the lid, but doubts remain about the effectiveness of this approach.

Online report: <http://www.ineris.fr/substitution-bpa/sites/default/files/documents/rapport%20substitution%20BPA.pdf>

Publications

Uses of and replacements for Bisphenol A.

ANSES produced a report on the uses of BPA in September 2011. This document is available at the following address: www.anses.fr/Documents/CHIM-Ra-BisphenolA.pdf.

The report notes the wide variety of industrial sectors that use Bisphenol A (polycarbonate-type plastics; epoxy resin synthesis).

The report is preceded by the results of the ANSES collective expert report "*Health Effects of Bisphenol A*".

More recently, ANSES embarked upon a consultation to identify the existing alternatives. The results of this consultation will be published at the same time as the risk assessment report, which is due to be released at the very start of 2013.

ANSES has identified an initial group of 73 possible alternatives to BPA in its different applications.