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Scientific data on health and the environment.

2004, Number 13
Third Quarter

Restricted Distribution

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FOREWORD

This newsletter aims to provide a platform for objective and scientific information on a subject often scrutinised by political or regulatory authorities, namely the life cycle of PVC and its applications. In this issue, some of the latest studies or reports related to the PVC life cycle are reported. We hope that this will help you to find your way in this debate.

The previous editions of the newsletter as well as this one are also available, with a convenient classification system by theme, on the website: www.tracingpapers.org.

EU: Life Cycle Assessment of PVC and of principal competing materials.

A structured survey of existing Life Cycle Analysis (LCA) identified the available information to create a comprehensive picture of the available environmental information on life-cycle related topics within the market segment of PVC products. The authors conclude that it becomes obvious that PVC is an individual material – like other polymers and materials – with individual environmental advantages and disadvantages. It is a matter of the (effective or ineffective) use of materials within individual and innovative applications. Therefore from a LCA point of view there is no reason why PVC should be treated different than other materials. And the EU Commission considers on the Integrated Product Policy (IPP, 2003) that LCAs provide the best framework for assessing the potential environmental impacts of products currently available.

Reference: Life cycle assessment of PVC and of principal competing material. Commissioned by the EU Commission. Martin Baitz and al, PE Europe GmbH, April 2004. http://europa.eu.int/comm/enterprise/chemicals/sustdev/pvc-executive_summary_lca.pdf and www.europa.eu.int/comm/enterprise/chemicals/sustdev/pvc-final_report_lca.pdf

UK: Dioxin Emissions to Air from many UK sources now negligible.

The key findings from the research to develop the UK cost curves for abatement of dioxin emission to air are that dioxin emissions from waste incineration, cremation, public services combustion and refinery combustion were re-evaluated and were found to be negligible. Emissions from the waste treatment sector (particularly MSW incineration) have dropped by around 90% over the past 10 years. The corrected UK total dioxin emissions figure for 2000 is 276 g TEQ. This represents a significant reduction of 23% from the current NAEI estimate of 360 g TEQ for 2000. A total of 10 measures which will lead to dioxin emissions reductions were identified. Together these measures will cost £14.6 million/year and will further reduce dioxin emissions by 18% compared to the corrected baseline emissions of 276 g TEQ/year.

Reference: Development of UK Cost Curves for Abatement of Dioxin Emissions to Air – Department for Environment, Food and Rural Affairs Final Report – draft for consultation - November 2003 Entec UK Limited <http://www.defra.gov.uk/corporate/consult/dioxins-two/report2.pdf>

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EU: Advice of the AFC on the migration of ESBO and ESBO-derivatives from containers of baby foods.

The Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food (AFC) has been asked to give an opinion on the risk for infants and, as regards the ESBO-derivatives, for the consumer in general. ESBO is used as a plasticiser and stabiliser in polyvinyl chloride (PVC) gaskets of metal lids used to seal glass jars and bottles to prevent microbiological and other contaminations. This type of packaging is common for baby foods. The estimated exposure of infants aged 6-12 months to ESBO migrating into baby foods from such packaging can sometimes exceed the Tolerable Daily Intake (TDI) by up to 4- to 5-fold. According to the Panel since there is an inbuilt safety factor of more than 100 in the derivation of the TDI, exceeding it by 4- to 5-fold does not imply that there will be adverse health effects in infants and ESBO is neither carcinogenic nor genotoxic. However, such a situation is undesirable and the Panel recommends to develop a specific migration limit for ESBO in baby foods applicable to babies fed mainly or exclusively on processed baby foods. The Panel notes also that up to 5% of the fatty acids in ESBO in gaskets may be converted into derivatives of ESBO such as chlorohydrins as the PVC is heated to high temperatures. Their concentration in food could achieve about 5% that observed for ESBO itself. In the absence of adequate toxicological data on ESBO derivatives, no advice can yet be given on the significance for health of such derivatives in foods.

Reference: Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food (AFC) on a request from the Commission related to the use of Epoxidised soybean oil in food contact materials = http://www.efsa.eu.int/science/afc/afc_opinions/467/opinion_afc10_ej64_epox_soyoil_en1.pdf

EU: Vinyl 2010 Progress Report 2004.

Vinyl 2010 achieved its 2003 target to recycle 25% of collectable, available PVC waste from window profiles, roofing membranes, pipes and fittings. The Monitoring Committee held also in 2003 its first meeting with senior representatives from the European Commission, the European Parliament and Trade Unions. Signed in 2000 Vinyl 2010 is the PVC industry's Voluntary Commitment, a 10-year plan, to deliver continuous improvement in product stewardship across the PVC lifecycle. Principal elements of the pledge are to cut raw material and energy consumption in manufacturing; minimise the environmental impact of resin production; develop a comprehensive waste management strategy; ensure that all plasticisers can be safely used; and assess potential risks linked to lead as a stabilizer while working toward replacement by 2015. The industry also committed to cease using cadmium stabilisers, which has been done.

Reference: <http://www.vinyl2010.org/index3.html>

EU: Result of the EU Commission Risk Assessment Report on dibutyl phthalate.

This report provides a summary, with conclusions, of the Risk Assessment Report on the substance dibutyl phthalate that has been prepared in the context of Council Regulation (EEC) No. 793/93 on the evaluation and control of existing substances. With regards to *Human Health* (toxicity): *For consumers*, there is at present no need for further information or testing or risk reduction measures beyond those which are being applied already. *For workers*, there is a need for limiting the risks for workers because of concerns for general systemic toxicity as a consequence of repeated dermal exposure and repeated inhalation exposure in all occupational exposure scenarios. It is possible that in some industrial premises adequate worker protection measures are already being applied. The conclusion *for the environment* is an anticipated risk for plants (atmospheric exposure) at a local scale around units using DBP (PVC production, adhesive production, printing ink usage and glass fibre production), and that there is a need for limiting the risks for plants, taking into account the measures already being applied. For effects on *the aquatic compartment* (including sediment), soil and secondary poisoning, there is at present no need for further information or testing or risk reduction measures beyond those which are being applied already.

Reference: DIBUTYL PHTHALATE - Summary Risk Assessment Report with addendum 2004. <http://www.phthalates.com/upload/documents/document31.pdf> inion on medical devices containing DEHP plasticized PVC neonates and possibly at risk from DEHP toxicity. http://www.europa.eu.int/comm/food/fs/sc/scmp/out43_en.pdf

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