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FOREWORD

This newsletter aims to provide a platform for objective and scientific information on a subject often scrutinised by 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 .

USA: Toxics reductions from municipal waste combustors locked in by US-EPA.

To ensure continued reductions in air toxics, the US EPA has finalised a rule tightening emissions limits for large municipal waste combustors (MWCs) that burn more than 250 tons a day of solid waste and emissions control requirements for large MWC units. The requirements adopted in 1995 by the US-EPA were highly effective and reduced MWC emissions beyond what was required, including the reduction of organic emissions (dioxin/furans) by more than 99 per cent, metal emissions (mercury, cadmium, and lead) by more than 93 per cent, acid gas emissions (sulphur dioxide and hydrogen chloride) by more than 91 per cent. The final rule will ensure that high performance levels at MWCs are maintained. EPA is also finalizing several changes to the rules to simplify implementation.

Reference: http://www.epa.gov/ttn/oarpg/t3/fact_sheets/largeMWC_fsfinal.html A fact sheet and copy of the final rule: http://www.epa.gov/ttn/oarpg/new.html

UK: A literature review on studies available on PVC sustainability.

This literature review is an inventory of most specific studies and initiatives on PVC sustainability and particularly Life Cycle Analysis of PVC materials in many applications: windows, tubes, flooring, cable, roofing, toys, packaging and consumer goods. The review covers also the studies dealing with the environmental issues potentially associated with PVC. Recycling and waste treatment methods and issues are also covered by the survey.

Reference: The Sustainability of Polyvinyl Chloride (PVC) - Literature Review A Report for the PVC Sustainability Research Network by Dr. Elizabeth Wright and Prof. Adisa Azapagic, Centre for Environmental Strategy, University of Surrey, March 2005 - http://www.vinylsum.org.uk/downloads/working-document-v07.doc

Switzerland: Energy ecobalance from waste incineration.

The production of electrical energy in Municipal Solid Waste Incinerator (MSWI) has, under an approach of the "nature made label", less environmental impact than other ways of producing electrical energy, including wind-based, solar based or hydraulic ones. As there is a quite big potential, electric energy based on waste incineration is a quite attractive source. The same approach was also made to thermal heat, produced in MSWI. Under these criteria, this energy is less impacting than heat based on solar collectors, wood or even based on geothermal effects.

MSWI is in first priority a waste management operation, but the recovery of the contained energy is also an important operation.

Reference: Ökobilanz für Energie aus Kehrichtverbrennungsanslagen. Buwal and Awel, Bern/ Zürich. Doka Ökobilanzen Gabor Doka, June 2005. www.doka.ch, www.awel.zh.ch/aktuell and www.infrastrukturanlagen.ch

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EU: Opinion on the risk assessment for acetyl tributyl citrate (ATBC), plasticizer used in children's toys.

Adopted by the CSTEE during the 41st plenary meeting of 8 January 2004. The CSTEE is of the opinion that the current risk assessment report (Nikiforov, 2003) is of a good quality.

From a mouthing study of PVC-disks containing ATBC in human volunteers, a maximum daily oral exposure dose of 227 µg/kg bw has been estimated. A new 13 week study in rats with an in utero exposure has identified a NOAEL of 100 mg/kg bw/day. Since this study is judged to have an adequate design for addressing the potential risk for young children mouthing PVC-toys containing ATBC as a plasticizer, the CSTEE does not see a need for a chronic toxicity study. It is assumed that the risk assessment report is a correct reflection of the study outcome. When comparing the estimated exposure dose with the NOAEL, a Margin of Safety (MOS) of 440 can be calculated.

Since the exposure dose clearly is a worst-case estimate, the actual MOS for children up to 36 months of age presumably is considerably larger. Therefore, the CSTEE is of the opinion that the risk assessment has provided sufficient sound scientific evidence to show that toys plasticized with acetyl tributyl citrate (ATBC) can be safely mouthed by children

Reference : Opinion on the risk assessment for acetyl tributyl citrate (ATBC) plasticizer used in children's toys. Scientific Committee on Toxicity, ecotoxicity and the Environment (CSTEE) C7/GF/csteeop/ATBC/080104 D(04) - http://ec.europa.eu/health/ph_risk/committees/sct/documents/out222_en.pdf

EU: Multi-generation fish study confirms DEHP has no adverse impact on aquatic organisms.

The DEHP multi-generation study with the fathead minnow, which industry was mandated to do as part of the EU risk assessment, has confirmed that DEHP has no adverse effect on aquatic organisms. No endocrine disrupting or other adverse effects were observed during this long-term study which involved exposing fish to DEHP via their food because of its low solubility. The study, which was performed by the Brixham Environmental Laboratory and Syngenta Central Toxicology Laboratory, has been forwarded to the European Chemicals Bureau (ECB) and the Swedish rapporteur. A paper will now be prepared for publication in a peer-reviewed journal.

Reference: Di-2-Ethylhexyl Phthalate: Multi-generation study with the fathead minnow (Pimephales promelas). Caunters et al (2004) Brixham Environmental Laboratory and Syngenta Central Toxicology Laboratory. Information provided to the Swedish rapporteur of the EU risk assessment of DEHP and to the European Chemical Bureau (ECB), Ispra. CAS 117-81-7, EINECS 201-211-0 – http://ecb.jrc.it/NewsLetter/newsletter200501.pdf (page 6)

EU: The APPRICOD project for Recycling and Sustainable Resource Management.

APPRICOD project is the successor of a collaboration project between the associations represented by Vinyl 2010 and the Association of Cities and Regions for Recycling and Sustainable Resource Management (ACR+) that started in 2001. Following successful cooperation and results in two pilot projects , Vinyl 2010, ACR+ and various other partners in the construction and demolition industries presented to the European Commission the follow-up APPRICOD project. Launched in December 2003 and due to run until May 2006, work continued throughout 2005 with pilot trials in each of the Ancona, Barcelona, Brussels and Porto regions, covering construction, renovation and demolition. Several of the trials were delayed and additional information is still being collected. Reporting is now done with the publication of good practice guides and a series of seminars.

Reference: www.acrr.org/projects/appricod.htm

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