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Scientific data on health and the environment.

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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. Previous editions of the newsletter are still available on request.

USA: The US Consumer Product Safety Commission (CPSC) unanimously rejected a petition to ban PVC used in products intended for children five years of age and below.

The conclusion of the briefing information on which the Commission based its decision said that *"the staff believed that there is no demonstrated health risk posed by PVC toys or other products intended for children 5 years of age or below and thus no justification for either banning PVC use (...) or for issuing a national advisory on the health risks associated with soft plastic toys"*. In particular the exposure to hazardous levels of lead and cadmium alleged by Greenpeace in the petition was not confirmed by further evaluation and testing. With regards to the plasticiser DINP, the conclusion was based on another report to the Commission considering that *"DINP exposure is expected to pose a minimal to non-existent risk of injury"*.

Reference: U.S. Consumer Product Safety Commission, February 26, 2003 http://www.cpsc.gov/cpsc/pub/pubs/cpsr_nws29.pdf - <http://www.cpsc.gov/library/foia/foia03/petition/ageunder.pdf>

USA: The Cosmetic Ingredient Review (CIR) panel reaffirms Phthalates In Cosmetics are "Safe for Use".

The decision by the Cosmetic Ingredient Review (CIR) panel follows a year-long review of existing and new evidence on three phthalates: di-methyl phthalate (DMP), di-ethyl phthalate (DEP) and di-butyl phthalate (DBP). The CIR is funded by the cosmetics industry with representatives from the Food and Drug Administration and the Consumer Federation of America attending as liaisons. The CIR review focused on exposure – that is, the amount of phthalates, which consumers might absorb into their bodies from all cosmetic sources – and found, in the words of one panelist, *"a tremendous margin of safety."* *The panel members agreed that using even the most conservative data, the safety factor between consumer exposure and the exposure levels that had no effect in rats was at least 1,000"*.

Reference: http://www.cir-safety.org/staff_files/phthalates_summary.pdf Cosmetic Ingredient Review phone : 202-331-0651 e-mail: cirinfo@cir-safety.org

.../...

EU: EU Risk assessments on phthalate plasticiser DINP and DIDP.

The final Summary and Full EU Risk Assessment reports on DINP and DIDP have been published by the European Commission's European Chemical Bureau (ECB). With regards to human health (toxicity) and workers' exposure, the conclusion is that there is at present no need for further information and/or testing and for risk reduction measures beyond those which are being applied already. The production and use of DINP or DIDP in PVC, other polymers, inks, adhesives and coatings is not considered of concern for occupational exposure (inhalation and skin contact). For consumers, the end products containing DINP or DIDP (clothes, building materials, toys and baby equipment) and the sources of exposure (car and public transport interiors, food and food packaging) are unlikely to pose a risk for consumers (adults, infants and newborns) following inhalation, skin contact and ingestion. For infants, combined exposure which is mainly related to exposure from toys and via the environment is not considered of concern for DINP. However, for DIDP there is a need for further information in case of substitution by DIDP of other plasticisers in toys due to uncertainty about the relevance of hepatic effects observed in animals if used in baby toys. With regards to the environment, the conclusion is that the production and use of DINP or DIDP in PVC, other polymers, inks, adhesives, sealants and paints is unlikely to pose a risk to the environment. In addition, risks to the function of sewage treatment plants and the atmosphere are expected to be very low for both production and all uses.

Reference: <http://ecb.jrc.it/existing-chemicals/Di-isoninyl-phthalate> and [Di-isodecyl-phthalate](http://ecb.jrc.it/existing-chemicals/Di-isodecyl-phthalate).

UK: Thermal Treatment of Waste and Sustainability: An Evaluation Using The Natural Step Framework.

The *2020 Vision* report explores the sustainability implications of various thermal treatment technologies for waste handling, including basic 'mass burn' incineration as well as more advanced methods, compared to the 'benchmarks' of landfill and mechanical biological treatment (MBT). On the basis of a vision of full sustainability developed during the project, the study identifies seven key sustainability challenges. Though, it is concluded from this study that no treatment method can render the disposal of the volume and content of today's waste streams sustainable, it is equally concluded that some technologies have a much lower 'sustainability footprint' than others.

Reference: *Thermal treatment of waste and sustainability. 2020 Vision series N°8. The Natural Step, UK Environment Agency, Interface Europe Ltd, Sita Environmental Trust July 2003. Info@naturalstep.org.uk and www.naturalstep.org.uk TEL: 01242 262744 FAX: 01242 757992*

JAPAN: Quantitative analysis of toxic compounds formed from combustion of plastics and newspaper.

The study examined the formation of dioxins, PCBs, benzene, polycyclic aromatic compounds (PAH) and other substances from combustion of plastic particles and newspaper in an experimental incinerator. The quantity of PCDD/F and PCBs in terms of TEQs were comparable to blank levels for nylon, ABS and negligible for polyethylene (PE), polypropylene (PP) and PET. Higher levels for PVC were considered due to the influence of Cl content but the values are several orders of magnitude lesser when compared to the content of the chloride parent compound Cl. On the contrary much higher levels of benzene and aromatic compounds were found to be formed from PE, PP, nylon and newspaper than from PVC, PET and ABS showing intermediate values.

Reference: *Quantitative Analysis of Toxic Compounds Formed from Combustion of Some Plastic Materials and Newspaper. Takumi Takasuga et al. ; Organohalogen Compounds, Vol 60-65, Dioxin 2003, Boston, MA.*

SWITZERLAND: Recycling of Plastics in Switzerland and lack of environmental impact of PVC incineration.

The impact of plastics in municipal waste incineration was evaluated in this study. Switzerland has probably the most extensive experience now from plastic waste incineration because no landfill is admitted and plastics have to be recycled either by material or by energy recovery. It is observed that the incineration of PVC, including its additives, in a municipal incinerator is nowadays without impact on the environment. The equipment of modern incinerators is indeed able to avoid formation and/or emissions of acids and other pollutants. The equipments incinerators are also able to incinerate the high caloric input that represents a high content of plastic waste without reduction of the flux of waste treated.

Reference: www.umwelt-schweiz.ch/buwal/de/fachgebiete/fg_abfall/abfallwegweiser/kunststoffe/index

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