Phthalates

Phthalates are a large group of chemicals used in a plethora of applications for consumer use. Phthalates possess a broad variety of chemical properties, but there are also several similarities across the group. Many of these substances exhibit potential for endocrine disruption and a negative impact on reproduction.

EXPOSURE TO PHTHALATES CAN OCCUR FROM SEVERAL IMPORTANT ROUTES

Phthalates exert a wide array of effects in the body. Several phthalates can disturb the endocrine system and act as a synthetic oestrogen causing deformities in male reproductive organs, premature breast development and breast cancer. The strongest endocrine disrupting effects are seen among the phthalates with shorter carbon chains. Certain phthalates can also influence thyroid hormones, affecting skeletal formation and metabolism, and causing insulin resistance leading to obesity. Studies show that human levels of phthalates vary a lot among individuals and that there are several important routes of exposure. Many phthalates are easily absorbed through the skin. Unborn children and infants are especially vulnerable to phthalate exposure since their bodies are being "hormonally programmed" and under constant development. Phthalates and their degradation products are found in humans, animals and in the environment.

USED IN A WIDE RANGE OF PRODUCTS BUT NOT CHEMICALLY BOUND

Phthalates are one of the most produced chemical groups with an annual production of several million tonnes per year. Phthalates are used as plasticisers (softeners) in plastics and PVC products, and also as solvents and fragrance carriers in personal care products and cosmetics.

The use of phthalates has increased dramatically during the last 50 years and they are now found virtually everywhere in all kinds of products. Among many other items, phthalates can be found in carpets, flooring, toys, clothes, wallpapers, paints, furniture, perfumes, cosmetics, cables and electronics.

Phthalates are not chemically bound to plastic materials so they can easily migrate into air, water, dust and humans. Therefore, exposure to phthalates is inevitable both for humans and for the environment.

JUST A FEW PHTHALATES RESTRICTED

At present, there are EU restrictions on the use of six phthalates in children's toys and childcare articles. Levels of DEHP, DBP and BBP cannot exceed 0.1% in any childcare articles. Levels of DiNP, DnOP and DiDP cannot exceed 0.1% in toys children under 3 can put in their mouths. Substances classified as toxic for reproduction, category 2 (which applies to DEHP, DBP, BBP and DiBP) are restricted in EU Cosmetic regulation. DEHP, DBP, BBP and DiBP are all included on the REACH Candidate list and DEHP, DBP and BBP have been given a sunset date of February 2015, after which a specific authorisation will be needed for further use within the EU. A few phthalates are banned for use in cosmetics in Asia and the US but the vast majority of the approximately 100 phthalates in common use are not restricted at all.

PHTHALATES ON THE SIN LIST

Eight phthalates (DEHP, DBP, BBP, DiNP, DiBP, Dipentylphthalate, Diisopentylphthalate and Bis(methoxyethyl)phthalate) have previously been included on the SIN List because they are classified as toxic to reproduction. In the updated version of the SIN List, 2.0, three further phthalates were added due to their endocrine disrupting properties: DEP, DHP and DCHP.

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DBP EU Risk Assessment Report (RAR) http://ecb.jrc.ec.europa.eu/DOCUMENTS/Existing-Chemicals/RISK_ASSESSMENT/REPORT/dibutylphthalatereport003.pdf

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