

A1	Project Code	IPA-99 Contract Biomonitoring
A2	Project Title	Biomonitoring of Exposure – Contract Exposure Assessment
A3	External Cooperation Partners	European Union Federal agencies Individual member companies of the Statutory Health Insurances Industry consortiums Non-for-Profit Research Institutes Universities
A4	Project Manager(s)	...dependent on the project

B1 – Aims
<ul style="list-style-type: none"> • Biomonitoring as part of health surveillance programs and according to the respective federal laws • Biomonitoring as part of (academic) research including population monitoring, and experimental studies in vivo and in vitro
B2 – Activities / Workplaces of Interest
<p>All types of occupational and environmental exposure scenarios are of interest with particular focus on carcinogenic, mutagenic and reproductive toxicants, e.g.,</p> <ul style="list-style-type: none"> • Aromatic amines (AAs) • Diisocyanates • Metals and metalloids • Nicotine and its metabolites (Confounder Analyses) • Organic solvents • Organophosphorus compounds (crop protecting agents, flame retardants) (OPs) • Polycyclic aromatic hydrocarbons (PAHs) • Phthalates and phthalate substitutes • Volatile organic compounds (VOCs)
B3 – Recent Publications
<p>Schwedler G, Seiwert M, Fiddicke U, Ißleb S, Hölzer J, Nendza J, Wilhelm M, Wittsiepe J, Koch HM, Schindler BK, Göen T, Hildebrand J, Joas R, Joas A, Casteleyn L, Angerer J, Castano A, Esteban M, Schoeters G, Den Hond E, Sepai O, Exley K, Bloemen L, Knudsen LE, Kolossa-Gehring M (2017) Human biomonitoring pilot study DEMOCOPHES in Germany: Contribution to a harmonized European approach. <i>Int. J. Hyg. Environ. Health</i> <u>220</u>: 686-696.</p> <p>Bonberg N, Pesch B, Ulrich N, Moebus S, Eisele L, Marr A, Arendt M, Jöckel KH, Brüning T, Weiss T (2017) The distribution of blood concentrations of lead (Pb), cadmium (Cd), chromium (Cr) and manganese (Mn) in residents of the German Ruhr area and its potential association with occupational exposure in metal industry and/or other risk factors. <i>Int. J. Hyg. Environ. Health</i> <u>220</u>: 998-1005.</p> <p>Casjens S, Pesch B, Robens S, Kendzia B, Behrens T, Weiss T, Ulrich N, Arendt M, Eisele L, Pundt N, Marr A, van Thriel C, Van Gelder R, Aschner M, Moebus S, Dragano N, Jöckel KH, Brüning T (2017) Associations between former exposure to manganese and olfaction in an elderly population: Results from the Heinz Nixdorf Recall Study. <i>Neurotoxicology</i> <u>58</u>: 58-65.</p>

- Correia-Sá L, Schütze A, Norberto S, Calhau C, Domingues VF, Koch HM (2017) Exposure of Portuguese children to the novel non-phthalate plasticizer di-(iso-nonyl)-cyclohexane-1,2-dicarboxylate (DINCH). *Environ. Int.* 102: 79-86.
- Giovanoulis G, Alves A, Papadopoulou E, Cousins AP, Schütze A, Koch HM, Haug LS, Covaci A, Magnér J, Voorspoels S (2016) Evaluation of exposure to phthalate esters and DINCH in urine and nails from a Norwegian study population. *Environ. Res.* 151: 80-90.
- Fromme H, Schütze A, Lahrz T, Kraft M, Fembacher L, Siewering S, Burkardt R, Dietrich S, Koch HM, Völkel W (2016) Non-phthalate plasticizers in German daycare centers and human biomonitoring of DINCH metabolites in children attending the centers (LUPE 3). *Int. J. Hyg. Environ. Health* 219: 33-39.
- Spaan S, Pronk A, Koch HM, Jusko TA, Jaddoe VW, Shaw PA, Tiemeier HM, Hofman A, Pierik FH, Longnecker MP (2015) Reliability of concentrations of organophosphate pesticide metabolites in serial urine specimens from pregnancy in the Generation R Study. *J. Expo. Sci. Environ. Epidemiol.* 25: 286-294.
- Hartmann C, Uhl M, Weiss S, Koch HM, Scharf S, König J (2015) Human biomonitoring of phthalate exposure in Austrian children and adults and cumulative risk assessment. *Int. J. Hyg. Environ. Health* 218: 489-499.
- Cutanda F, Koch HM, Esteban M, Sánchez J, Angerer J, Castaño A (2015) Urinary levels of eight phthalate metabolites and bisphenol A in mother-child pairs from two Spanish locations. *Int. J. Hyg. Environ. Health* 218: 47-57
- Smolders R, Koch HM, Moos RK, Cocker J, Jones K, Warren N, Levy L, Bevan R, Hays SM, Aylward LL (2014) Inter- and intra-individual variation in urinary biomarker concentrations over a 6-day sampling period. Part 1: metals. *Toxicol. Lett.* 231: 249-260.
- Käfferlein HU, Broding HC, Bünger J, Jettkant B, Koslitz S, Lehnert M, Marek EM, Blaszkewicz M, Monsé C, Weiss T, Brüning T (2014) Human exposure to airborne aniline and formation of methemoglobin: a contribution to occupational exposure limits. *Arch. Toxicol.* 88: 1419-1426.
- Koslitz S, Meier S, Schindler BK, Weiss T, Koch HM, Brüning T, Käfferlein HU (2014) Biomonitoring of N-ethyl-2-pyrrolidone in automobile varnishers. *Toxicol. Lett.* 231: 142-146.
- Schindler BK, Koslitz S, Weiss T, Broding HC, Brüning T, Bünger J (2014) Exposure of aircraft maintenance technicians to organophosphates from hydraulic fluids and turbine oils: a pilot study. *Int. J. Hyg. Environ. Health* 217: 34-37.
- Upton K, Sathyanarayana S, De Roos AJ, Koch HM, Scholes D, Holt VL (2014) A population-based case-control study of urinary bisphenol A concentrations and risk of endometriosis. *Hum. Reprod.* 29: 2457-2464.
- Becker K, Seiwert M, Casteleyn L, Joas R, Joas A, Biot P, Aerts D, Castaño A, Esteban M, Angerer J, Koch HM, Schoeters G, Den Hond E, Sepai O, Exley K, Knudsen LE, Horvat M, Bloemen L, Kolossa-Gehring M; DEMOCOPHES consortium (2014) A systematic approach for designing a HBM pilot study for Europe. *Int. J. Hyg. Environ. Health* 217: 312-322.
- Meier S, Schindler BK, Koslitz S, Koch HM, Weiss T, Käfferlein HU, Brüning T (2013) Biomonitoring of exposure to N-methyl-2-pyrrolidone in workers of the automobile industry. *Ann. Occup. Hyg.* 57: 766-773.
- Schindler BK, Weiss T, Schütze A, Koslitz S, Broding HC, Bünger J, Brüning T (2013) Occupational exposure of air crews to tricresyl phosphate isomers and organophosphate flame retardants after fume events. *Arch. Toxicol.* 87: 645-648.
- Koch HM, Haller A, Weiss T, Käfferlein HU, Stork J, Brüning T (2012) Phthalate exposure during cold plastisol application – a human biomonitoring study. *Toxicol. Lett.* 213: 100-106.