A1	Project Code	**IPA-63 DermaTox**
A2	Project Title	Percutaneous absorption of chemicals
A3	External Cooperation Partners	- Federal Agencies - Laboratory of Pharmacology and Toxicology GmbH & Co KG - Technical University of Denmark - Various member institutions of the Statutory Accident Insurances
A4	Project Manager(s)	Prof. Manigé Fartasch Dr. Holger M. Koch Stephan Koslitz Eike M. Marek

B1 – Aims

- To assess quantitatively the percutaneous absorption of chemicals in vivo and ex vivo
- To optimize and validate ex-vivo models to study the percutaneous absorption of carcinogenic and mutagenic chemicals under workplace conditions
- To study the influence of a damaged skin barrier on the percutaneous absorption of chemicals
- To investigate the effectiveness of first aid measures for the decontamination of skin.

B2 – Study Design(s)

- Volunteer exposures in experimental studies (in vivo) using exposure chambers
- Percutaneous absorption using Franz diffusion cells (ex vivo) or microdialysis (in vivo)
- Data modelling (in silico)
- Experimental animal settings

B3 – Selected Publications

Marek EM, Koslitz S, Weiss T, Fartasch M, Schlüter G, Käfferlein HU, Brüning T (**2017**) Quantification of *N*-phenyl-2-naphthylamine by gas chromatography and isotope-dilution mass spectrometry and its percutaneous absorption ex vivo under workplace conditions. *Arch. Toxicol.*, in press

Lorber M, Weschler CJ, Morrison G, Bekö G, Gong M, Koch HM, Salthammer T, Schripp T, Toftum J, Clausen G (**2017**) Linking a dermal permeation and an inhalation model to a simple pharmacokinetic model to study airborne exposure to di(*n*-butyl) phthalate. *J. Expo. Sci. Environ. Epidemiol.*, in press.

Bekö G, Morrison G, Weschler CJ, Koch HM, Pälmke C, Salthammer T, Schripp T, Toftum J, Clausen G (**2017**) Measurements of dermal uptake of nicotine directly from air and clothing. *Indoor Air* 27: 427-433.

Weschler CJ, Bekö G, Koch HM, Salthammer T, Schripp T, Toftum J, Clausen G (**2015**) Transdermal uptake of diethyl phthalate and di(*n*-butyl) phthalate directly from air: experimental verification. *Environ. Health Perspect.* 123: 928-934.