



The German Federal Institute for Risk Assessment (BfR) is the national institute which prepares expert reports and opinions on questions of food, feed and chemical safety and consumer health protection in Germany on the basis of internationally recognised scientific assessment criteria. It advises the Federal Government and other institutions and interest groups in these areas. The BfR conducts its own research on topics that are closely linked to its assessment tasks. It is an institution with legal capacity within the portfolio of the Federal Ministry of Food and Agriculture (BMEL).

In the department of Chemical and Product Safety at BfR, unit “Safety of consumer products” in collaboration with unit “Product Analytics”, there is the possibility from March 2022 to write a

Thesis (Master thesis)

Topic: Investigation of the release of textile dyes from fibres

Background:

Textiles accompany us every day around the clock but are less regulated in comparison to other consumer products such as cosmetics or toys. Many chemicals are used in the production process, with dyes being an important and large group which remain on the textile. The largest group of dyes are the azo dyes which have in common at least one azo bond and aromatic residues ($R^1-N=N-R^2$).

The master student will be involved in the validation of an analytical method based on LC-MS/MS to identify azo dyes by their aromatic residues. Subsequently, the release of azo dyes (migration) from cotton or polyester fibres dyed under defined conditions with reactive or disperse dyes will be investigated.

Tasks:

- Optimization and validation of existing analytical methods based on LC-MS/MS and LC-DAD
- Conducting and documenting migration experiments that mimic the release of azo dyes from textile fabrics onto the skin
- Evaluation of analytical data and assessment of the dermal exposure towards migrated textile dyes
- Summarizing results for scientific presentations

Requirements:

- Completed bachelor's degree in chemistry, food chemistry, biochemistry, biology or a similar discipline
- Good theoretical knowledge in the field of instrumental analytics is required, first practical experience is desirable
- Ability to independently conduct experimental work as well as to communicate and work in a team
- Good knowledge of written and spoken English is desirable
- Good MS Office skills are desirable

The location of the institute is Berlin-Jungfernheide. The work is unpaid and on trust working time basis. Start of work: from March 2022.

For further information please contact Suna Nicolai (Tel.: 03018412 –27328), Department of Chemical and Product Safety. Applications with the subject „master thesis“ can be sent to Suna.Nicolai@bfr.bund.de.

The BfR welcomes applications from people of all nationalities. The BfR is an innovative scientific institute offering family-friendly working conditions, for which it was awarded the “audit berufundfamilie®” (work and family) certificate. The BfR guarantees equal career opportunities for women and men. In the case of equal suitability, severely disabled applicants will be given preferential consideration and are only required to have a minimum level of physical suitability.



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