

# GROUPING OF NANOMATERIAL BY HEALTH, SAFETY & ENVIRONMENTAL CHARACTERISTICS

C. Schumacher, J. Pelzer, C. Möhlmann  
 Institute for Occupational Safety and Health of the German Social Accident Insurance  
 Alte Heerstraße 111, 53757 Sankt Augustin, Germany, E-mail: Christian.Schumacher@dguv.de

## Introduction

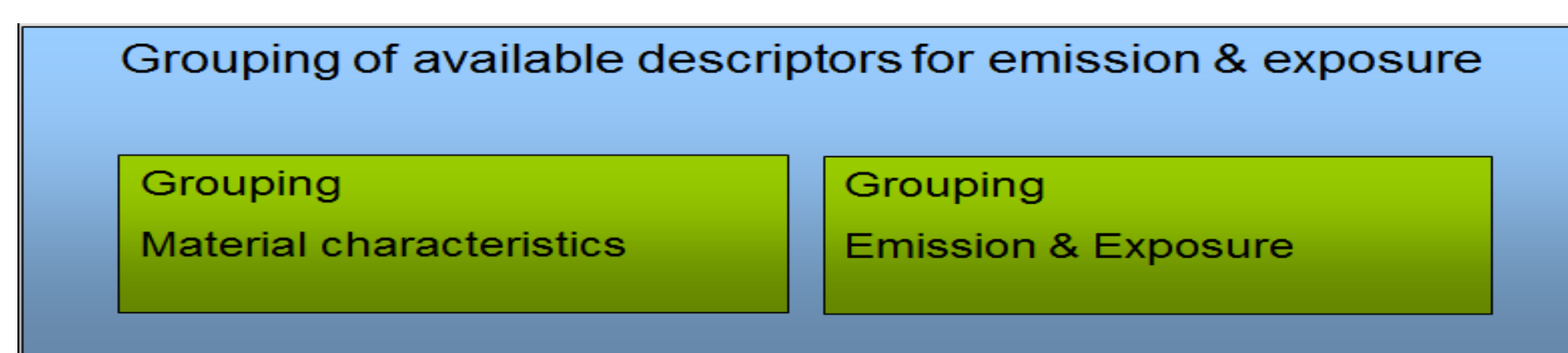
Risk assessments on nanomaterials usually turn out conservatively and advise to implement rigid control measures according to the precautionary principle.

The unit Exposure Assessment of the Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA) inter alia tries to enhance the capability of nanospecific risk assessments.

In a new German project, nanoGRAVUR, IFA as one of the 15 project members will evaluate criteria for the risk identification and evaluation of nanomaterial hazards for workers.

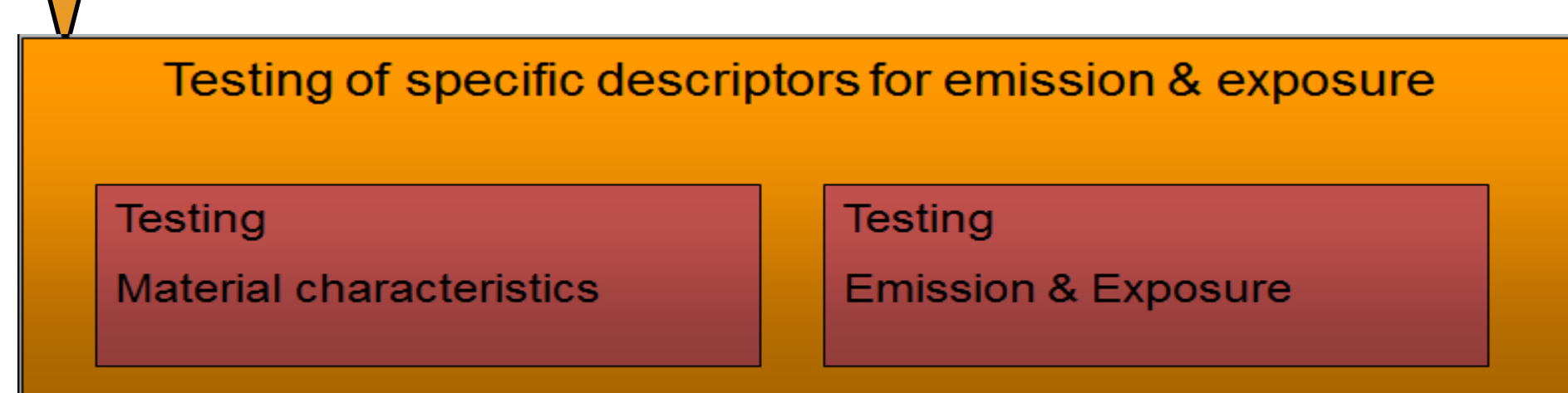
40 nanomaterials and formulations will be studied upon the possibility to describe and group them according to their characteristics, toxicity, emission and exposure potential and environmental fate.

## Methods



IFA together with 10 members of the project will scrutinize characteristics of a certain set of nanomaterials to group them in terms of material characteristics and corresponding emission and exposure patterns by conducting a literature study and laboratory tests.

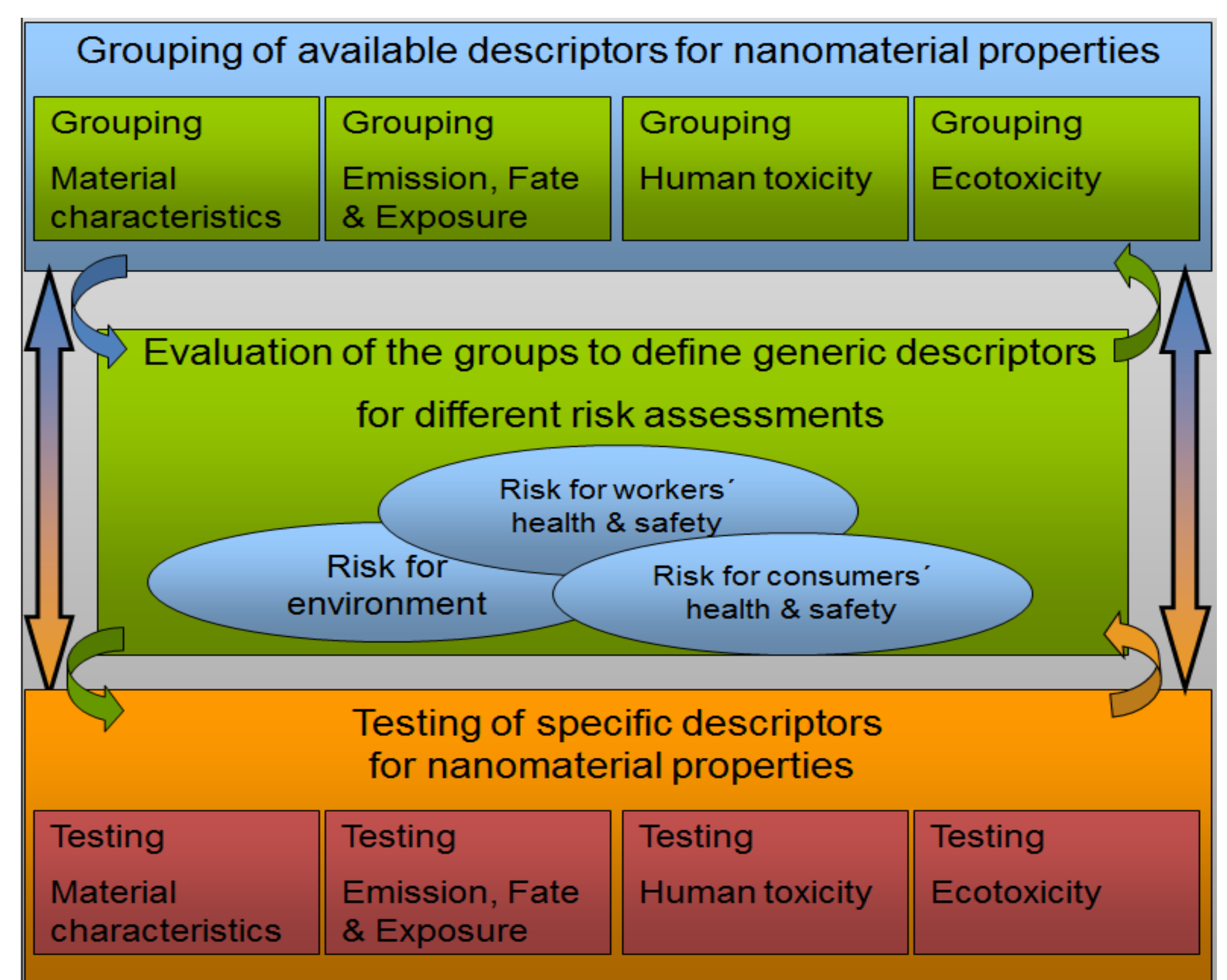
The groups will be evaluated in terms of risk management measure. The suitability of the grouping to enhance the protection of workers will be discussed with relevant stakeholders in workshops.



## Results

The following results are to be achieved:

1. Grouping of selected nanomaterials by their physico-chemical characteristics, emission and exposure patterns.
2. Evaluation of different test methods and instruments to analyse nanomaterial associated risks for workers, consumers and environment.
3. Grouping of specific risk descriptors for health and safety.
4. Suitability of selected measurement strategies as well as risk management measures for worker's health and safety.
5. Validity of generic descriptors and their combinations for the assessment of workplace related risks.



## Conclusions

Certain generic properties of nanomaterials should be grouped in view of the risk to human health and the environment.

This will lead to a facilitated risk assessment for consumers, workers and the environment. Risk assessment tools and risk management will benefit from this grouping process.