

Consumer and general population exposure – challenges/opportunities

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Agenda

- Generic Exposure Scenario (GES) under REACH
- Activities in our Unit
- Conclusions & Outlook

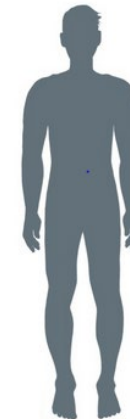
Generic Exposure Scenario (GES) under REACH

Generic Exposure Scenario (GES)

Cefic 2009, Developing Generic Exposure Scenarios Under REACH:

“ ... describes the necessary operational conditions (OCs) and risk management measures (RMMs) which should be implemented to control the risks ...”.

“... is applicable for a group of substances with a similar risk profile and aggregates individual Exposure Scenarios for a particular area of application such as a process chemical, cleaning agent or coating” .



Cefic 2009, Developing Generic Exposure Scenarios Under REACH

- A package of relevant RMM information ...
- Consistency in the GES communications to DUs across different suppliers and substances within a supply chain ...
- Standardisation of the language used to describe GESs ...
- They must be developed in a manner consistent with the IR&CSA ...
- ...

Cefic 2009, Developing Generic Exposure Scenarios Under REACH

— A package of relevant RMM information ...

Registration dossiers provide no or only limited information about RMMs already implemented in consumer products.



— They must be developed in a manner consistent with the IR&CSA ...

“The description of identified uses is also meant **to enable the authorities to understand** what is practically done with a substance in the market.”

(ECHA-GD IR & CSA R.12)

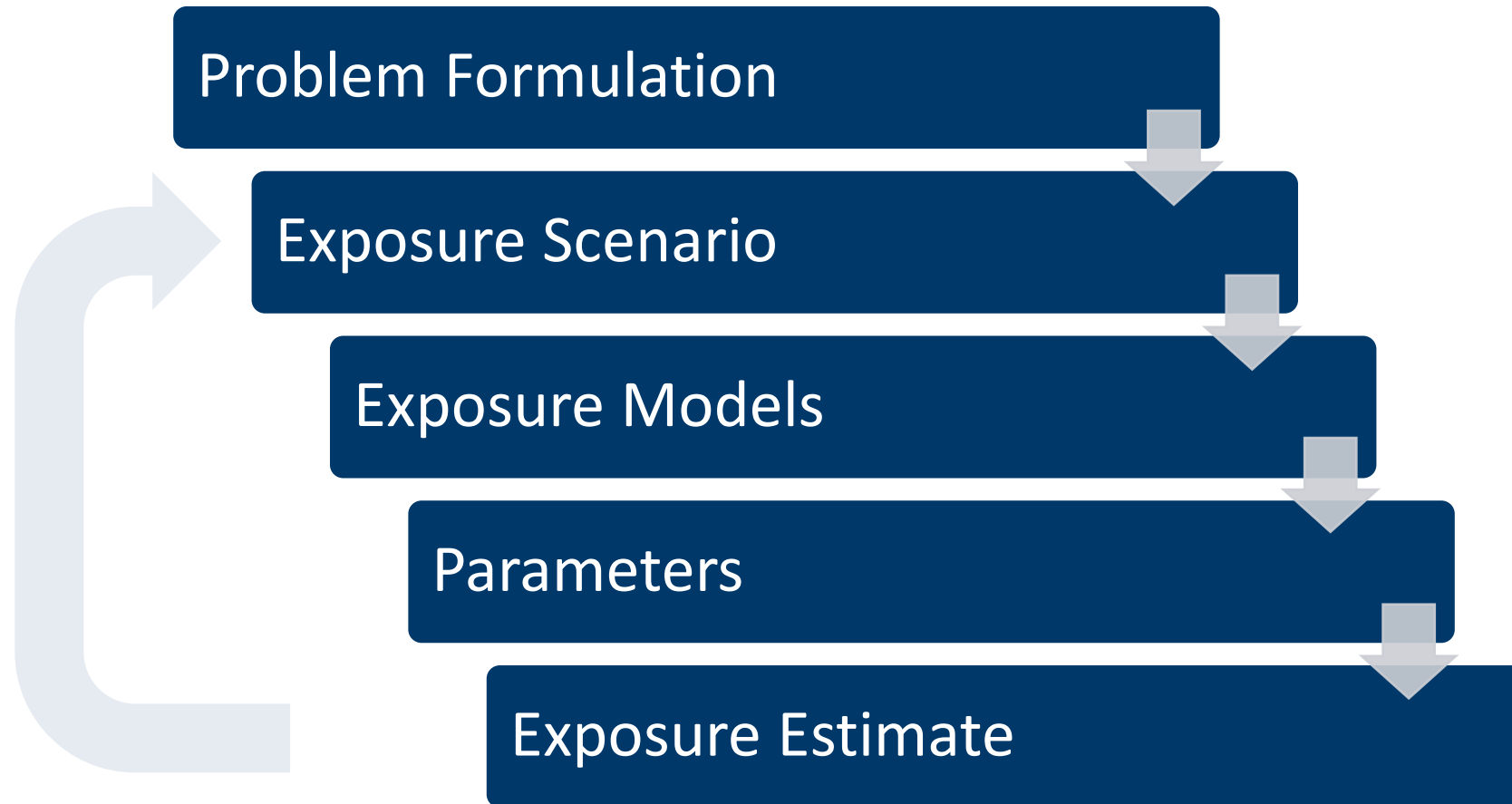
- Development of use maps
- Specific Consumer Exposure Determinants (SCEDs)

Feed back

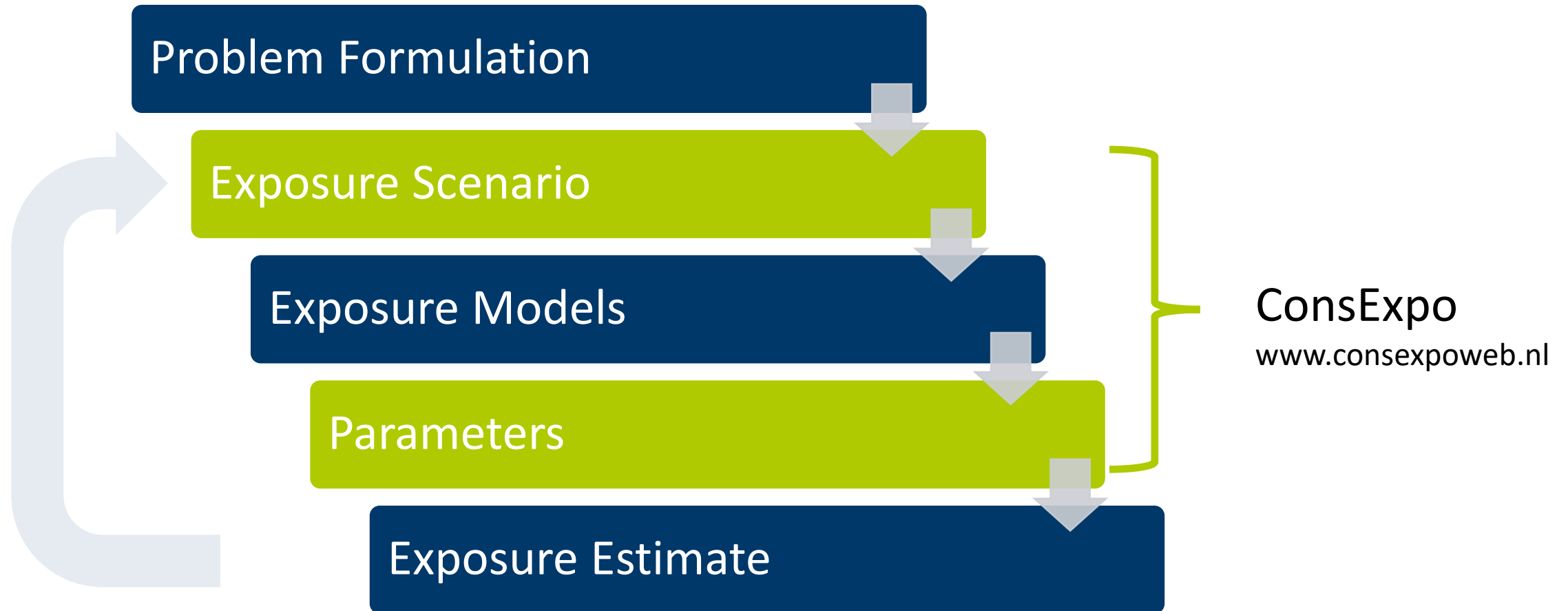
- GES cover many products with a loss of information
- Exposure scenarios are not always comprehensible for authorities
- Authorities use the data of the REACH registrations for regulatory purpose if no better information is available

Activities in our Unit

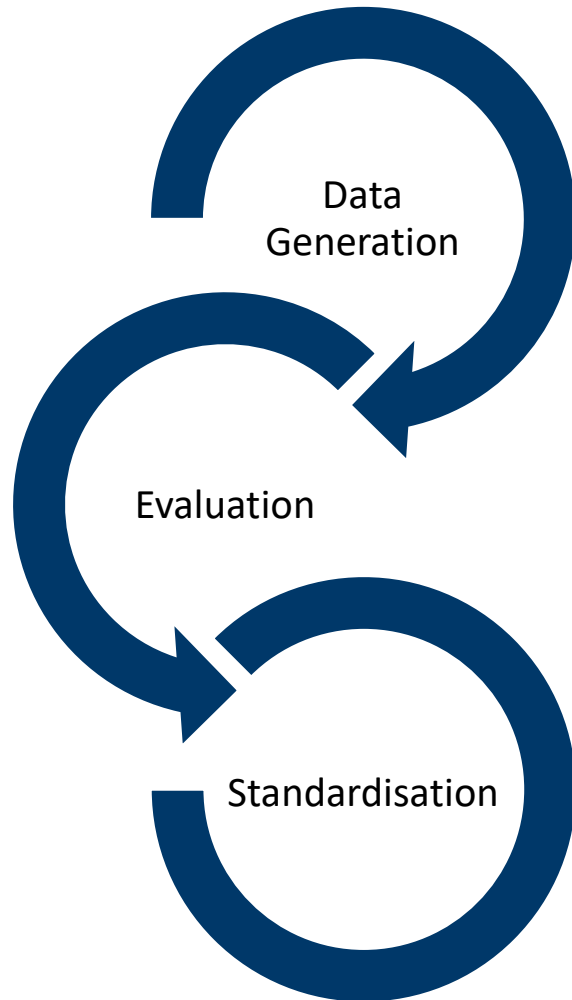
Workflow of Exposure Assessment



Workflow of Exposure Assessment



Fact Sheet Development



Data generation

- DIY-Fact Sheet, 2007 (Starting point)
- Literature research
- Industry/Stakeholder consultations
- **BfR- projects**

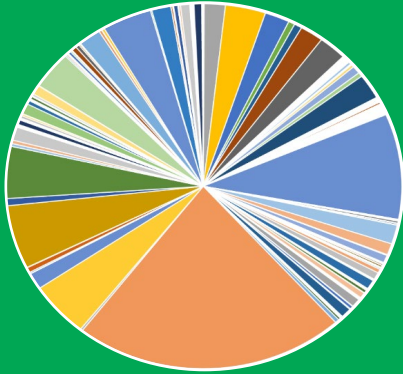
Evaluation

- Identification of new products on the market
- Development of new ES
- Statistical analysis

Standardisation

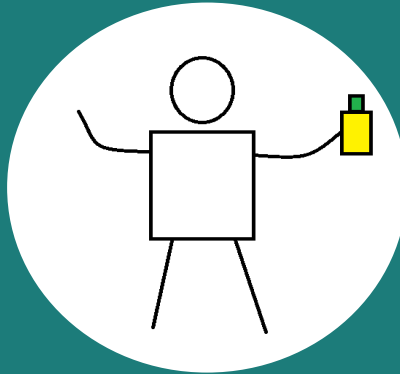
- Supervisory Board (RIVM, ANSES, NICNAS, Health Canada, BfR)

Concept of Data generation



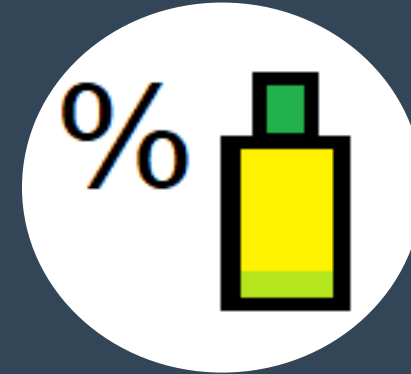
Market Research

Overview on consumer products with information on use, product design, chemicals



Consumer Behaviour

Targeted population, use frequency, product amount, exposure time
Awareness of safety and use instructions

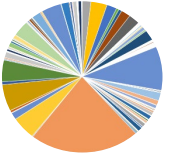


Chemical Analysis

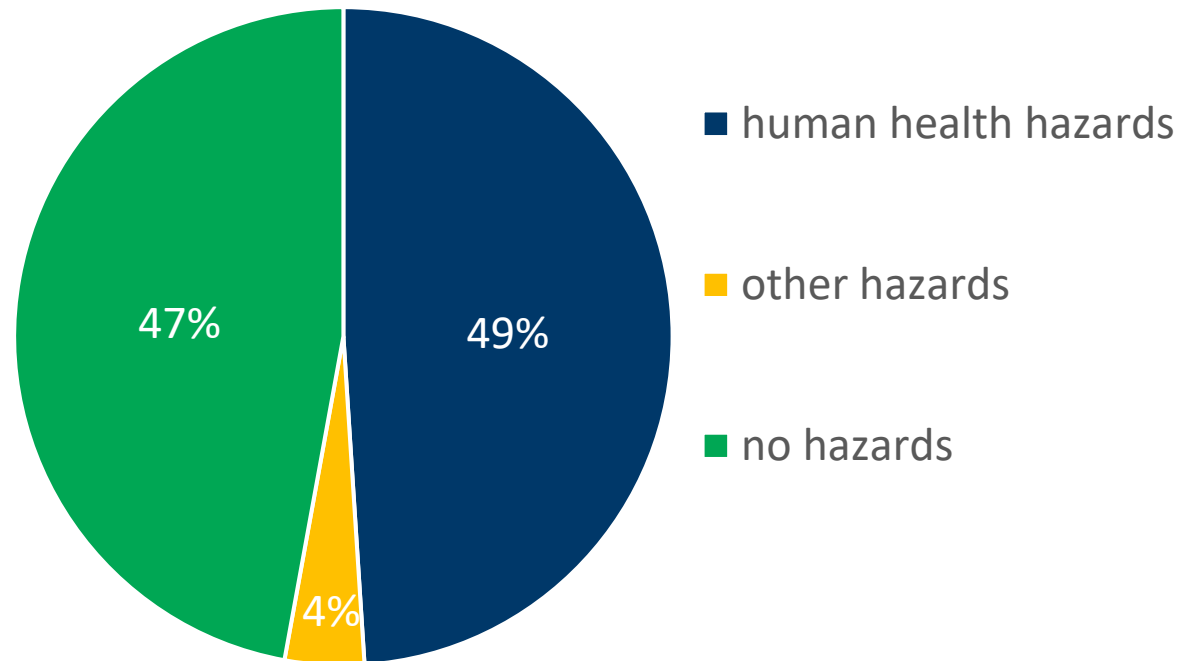
Chemical concentration in the product
Release of chemicals

Elements of the exposure scenario

Market Research for Adhesives and Sealants (2020/2021)



Product labelling



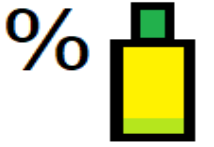
“... it is crucial to get an accurate picture of the market.”

<https://www.feica.eu/information-center/latest-news/FEICA-Market-Report>

Identification of about 3000 products (online shops & retail stores)

Detailed evaluation of about 500 products (product design, product labelling)

Analytic Project for Adhesives and Sealants (2023/2024)



Goal

Analytical screening and quantification of:

- substances of concern
- possible alternative substances already in use

Product selection

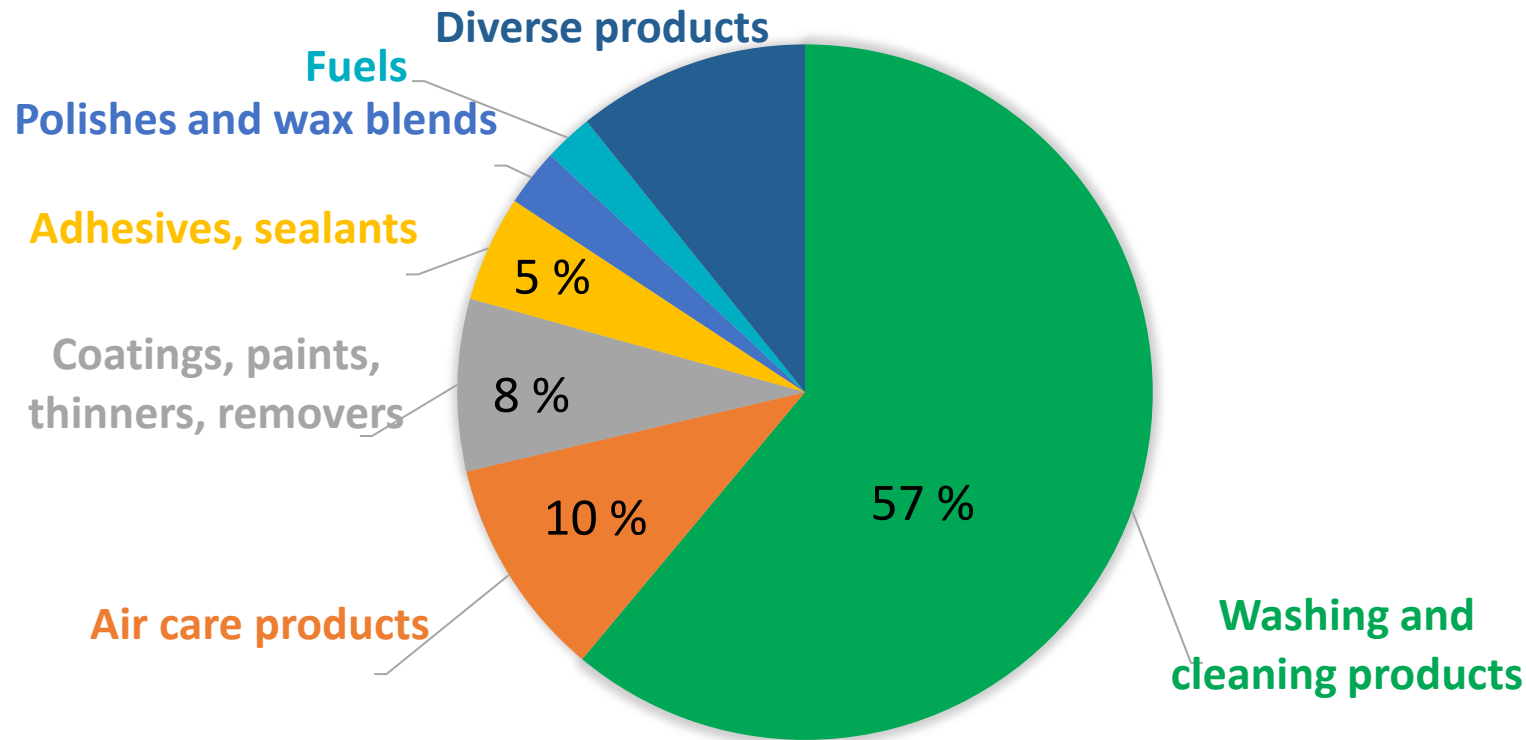
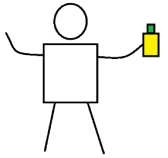
~ 90 adhesives and sealants with wide vs. specific use including

- 20 sprays,
- 15 adhesive clays
- 25 two-component products

State of play

- target and non-target screening ongoing
- first screening results expected end of 2023/beginning of 2024
- Based on screening selection of substances for quantification

Consumer Behaviour – Data Availability (2016)



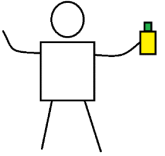
Inventory of about 40 consumer studies ->

~ 800 data sets of

- Use frequency (43 %)
- Product amount (26 %)
- Application duration (23 %)
- Location (9 %)

Heiland A, Oltmanns J, Bohlen M.-L, Kaiser E, Klenow S, Schneider K: Consumer behaviour - compilation and evaluation of primary data. 26th Annual ISES Meeting, 498. International Society of Exposure Science Utrecht, NL, 2016-10-09/2016-10-13.

Consumer Behaviour – Study Design

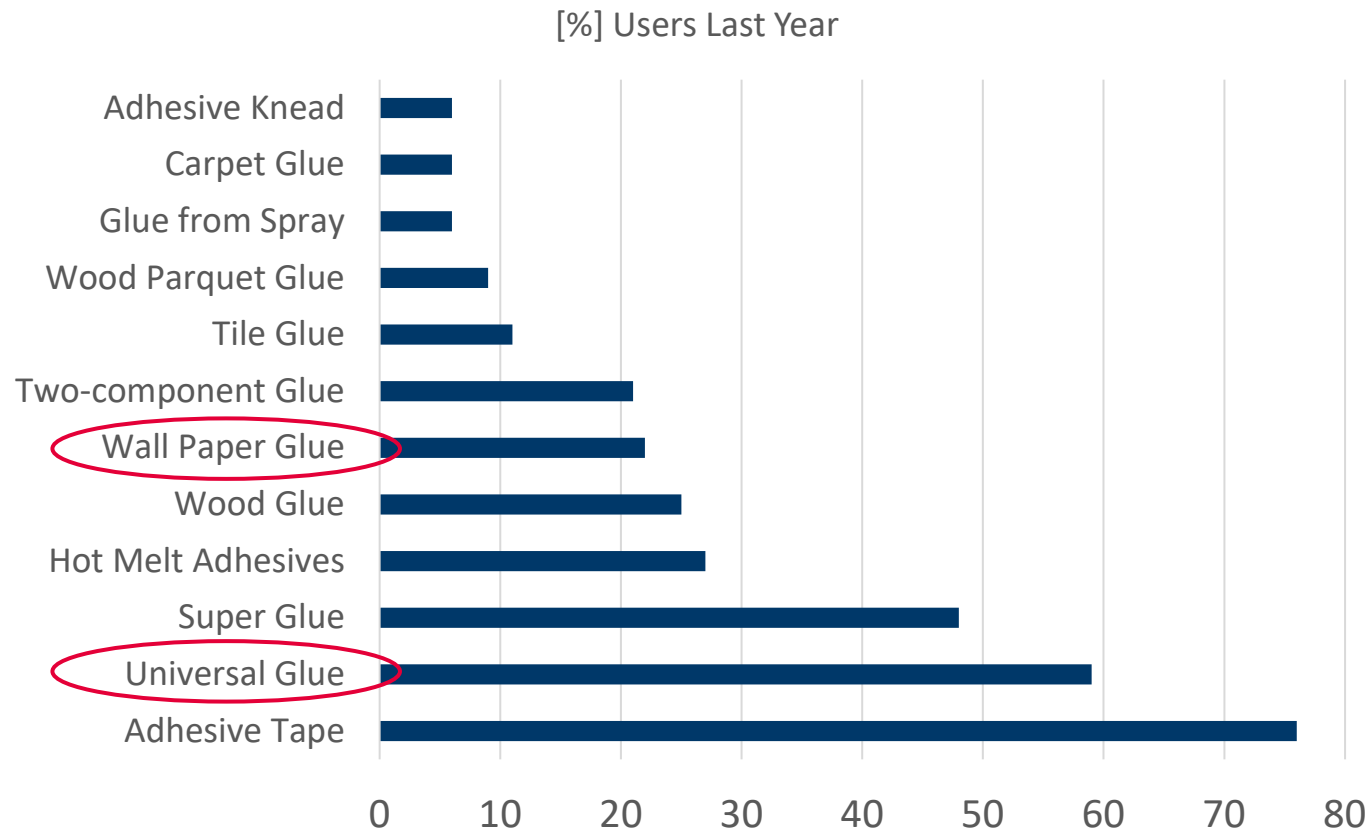
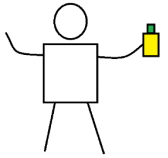


- Feasibility study to investigate methods for conducting a consumer survey
- Tested on 6 product types (articles & mixtures)
- Combination of retrospective questionnaire and written protocols
- CATI (computer assisted telephone interviews)

	Method I	Method II
Objective	Representative survey	Detailed survey of certain conditions of use to selected product types
Time period	e.g. last 5 years	last 12 month
Level of detail	low	high
Sample size	N = min. 1.000	N = min. 100

Schneider K, Recke S, Kaiser E, Götte S, Berkefeld H, Lässig J, Rüdiger T, Lindtner O, Oltmanns J. 2019. Consumer behaviour survey for assessing exposure from consumer products: a feasibility study. *Journal of Exposure Science and Environmental Epidemiology*, 29 (1), 2019, 83-94.

Consumer Behaviour – Results for Adhesives (Pre-Study 2017)



CATI Dual frame by Kantar Emnid

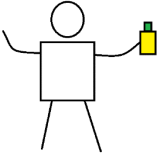
Representative random sample

N = 2044 participants

12 glue product types

Cieszynski et al. (publication in preparation)

Consumer Behaviour – Defaults



		ConsExpo (2007)	ConsExpo (2022)	Own Study* (2018)
Universal Glue	Frequency [events/month]	4	3	3
	Product amount used [g]	9	9	6
	Duration of use [min]	10	36	36
Wallpaper Glue	Frequency [events/month]	0.042	0.33	0.33
	Product amount used [kg]	7.5	16.5	16.5
	Duration of use [min]	-	500	413.8

*CATI (N = 1335) + 56 protocols for universal glue/52 protocols for wallpaper glue

Results

Adjusted Defaults

100 of the approx. 600 defaults have been changed;
> 80 % are now more conservative (e.g. product amount)

Adjusted Quality Factors

~ 100 Q-factors were adjusted; 30 % were increased due to a new (improved) factual situation (e.g., product information, feasibility study, and behavioural studies)

New Exposure Scenarios

For new products on the market
Supplemented by mixing and loading, inhalation exposure



<https://www.rivm.nl/bibliotheek/rapporten/2022-0208.pdf>;
DOI: 10.21945/RIVM-2022-0208

Summary & Outlook

Summary

- Need of improving the database regarding consumer uses
- Procedure of data generation with focus on consumer behaviour
- Additional contributions of stakeholders are welcome

Outlook

- ISES Europe conference on 19th-21st March in Berlin
- Publications in preparation (several DIY-products, consumer behaviour studies)

Thank you

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