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INTRODUCTION

The **OECD Guidance Document on Grouping of Chemicals** [1] provides guidance for assessing the hazards of chemical substances while gaining efficiencies and reducing the need for animal test data. The first edition was published in 2007 and updated in 2014. **A third edition of the Guidance Document is currently being updated** by a **Steering Group** of international experts representing national regulatory authorities, academia, NGOs, and industry, **co-chaired** by experts from the **United States Environmental Protection Agency (EPA)** and the **European Chemicals Agency (ECHA)**.

The Steering Group will revise, extend, and add sections of the Guidance based on both advances in science and technology as well as experiences garnered for example from the **OECD IATA case studies programme** [2]. Further development of guidance for justifying chemical groups based on diverse data types is necessary. Therefore, sections relating to **collection of data on analogues, interpretation of data, evaluation of the reliability of data for supporting the hypothesis, and use of (Q)SAR predictions** may be useful.

WHAT IS GROUPING?

Extrapolating information collected on chemicals to other similar chemicals with **shared (structural, mechanistic, biological)** attributes

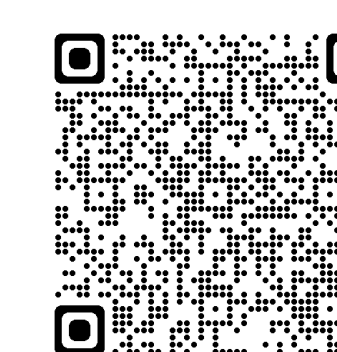
	Chemical 1	Chemical 2	Chemical 3	Chemical 4	
Structure	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
Property 1	●	→	○	→	SAR/ Read-across
Property 2	○	→	○	→	Interpolation
Property 3	○	→	○	→	Extrapolation
Activity 1	●	→	○	→	SAR/ Read-across
Activity 2	○	→	○	→	Interpolation
Activity 3	○	→	○	→	Extrapolation

● Existing data ○ Missing data point

HOW ARE GROUPING APPROACHES USED?

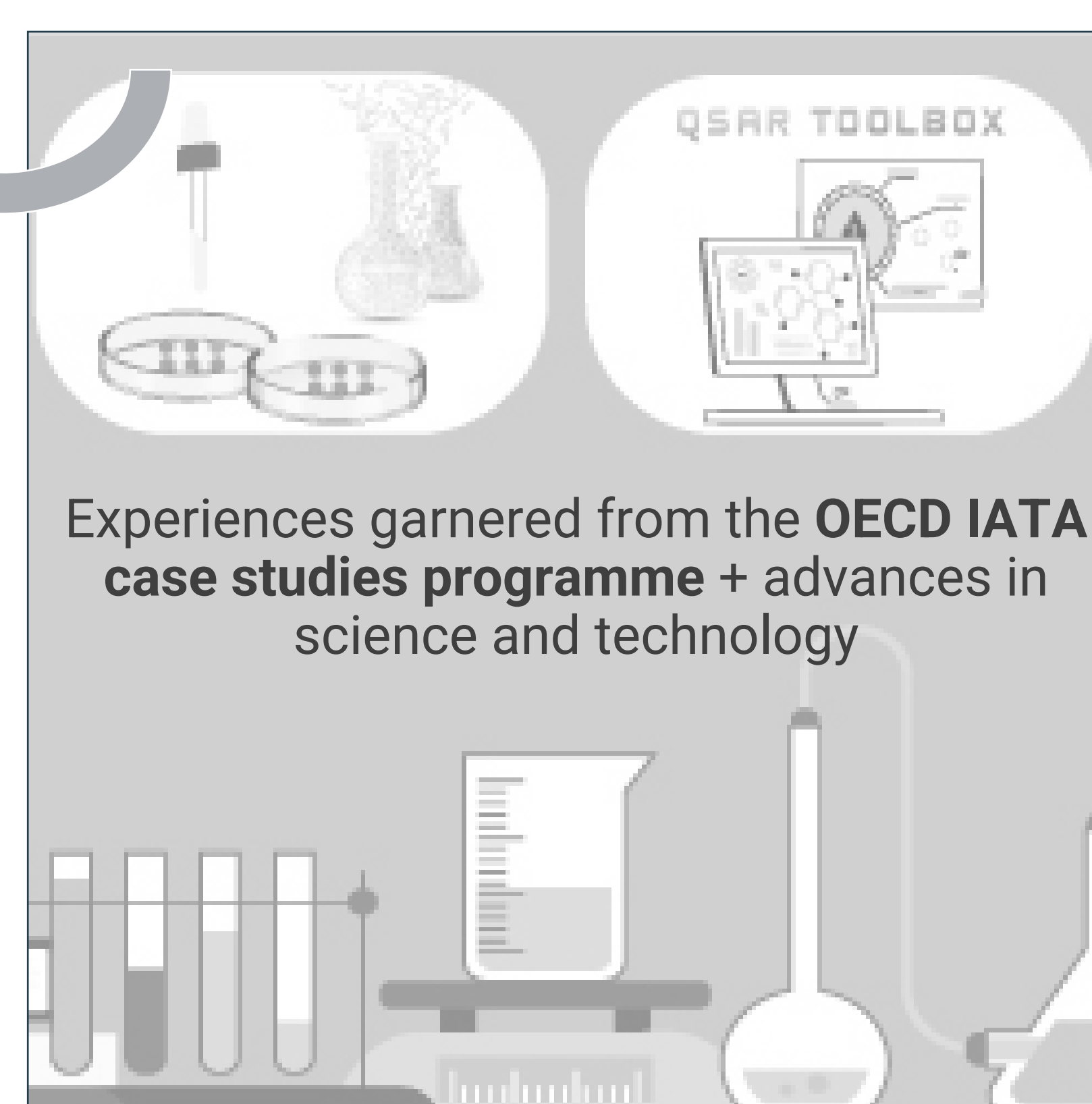
- To fill information gaps, for example, on **new and data poor** chemicals
- To reduce the need to generate data on every chemical in a group
- To **decrease the use of time, cost, and animal** used in chemical safety assessments

OECD Guidance on Grouping of Chemicals 2nd edition

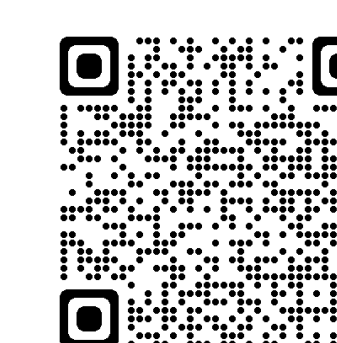


- The use of **Adverse Outcome Pathways (AOPs)** to consider grouping and read-across
- Expanded guidance on using **mechanistic data** and **omics** approaches to support grouping
- More details on how to consider **uncertainty** in grouping approaches
- Extended information on **grouping of nanomaterials**

WHAT IS INCLUDED IN THE PLANNED 3RD EDITION?



IATA case studies programme



Adverse Outcome Pathways



Omics technologies in chemical testing



THE UPDATE IS BASED ON?

CONCLUSIONS

As grouping and read-across approaches are increasingly being relied upon as an efficient alternative to animal testing for assessing the safety of chemicals or for prioritization, the updated OECD guidance will demonstrate how modern toxicological methods can promote globally harmonized approaches. **The third edition of the OECD Guidance Document on Grouping of Chemicals aims at promoting the relevance and readiness of grouping approaches to underpin the paradigm shift towards the next generation of risk assessment.**

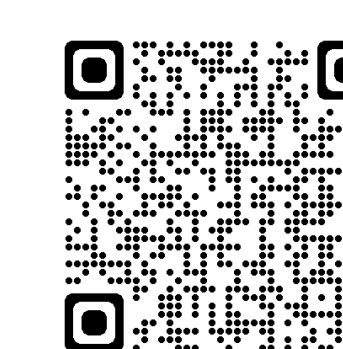
FOR FURTHER INFORMATION



Guidance Document for the Use of Adverse Outcome Pathways in Developing Integrated Approaches to Testing and Assessment (IATA)



QSAR TOOLBOX



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1. OECD, Guidance on Grouping of Chemicals, Second Edition, 2014.

2. <https://www.oecd.org/chemicalsafety/risk-assessment/iata/>