The Organisation for Economic Co-operation and Development (OECD) Guidance Document on Aqueous-Phase Aquatic Toxicity Testing of Difficult Test Chemicals (GD 23) supplements OECD test guidelines (TGs) for regulatory studies. For example, GD 23 provides essential guidance on maintaining consistent exposure to the dissolved test chemical throughout aquatic tests while minimising conditions that may lead to experimental artefacts (e.g. physical effects).

First published in 2000, GD 23 was updated in 2019 in an effort led by the European Commission, ICAPo and the USA to provide state-of-the-art approaches to aquatic toxicity testing involving difficult-to-test chemicals.

Particular attention was paid to updating methods available for testing poorly water-soluble test chemicals while avoiding the use of solvents. Thus, the need for a solvent control group is eliminated, reducing the number of test animals used.

### Example of an aquatic toxicity test design:

#### Test concentrations

<table>
<thead>
<tr>
<th>Concentration 1</th>
<th>Concentration 2</th>
<th>Concentration 3</th>
<th>Concentration 4</th>
<th>Concentration 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controls</td>
<td>Water-only</td>
<td>Additional</td>
<td>Additional</td>
<td>Additional</td>
</tr>
</tbody>
</table>

#### Conclusions

- The updated GD 23 represents a collaborative effort among numerous experts from industry, OECD member countries, non-governmental organisations, and academia.
- The updated GD 23 will help government agencies, industry, and contract research organisations conduct valid and reliable aquatic toxicity studies on difficult-to-test chemicals while minimising the number of animals used and the need to repeat studies.

### References


The views, conclusions, and recommendations expressed in this poster are those of the authors and do not necessarily represent the policies or positions of the PETA International Science Consortium Ltd., the International Council on Animal Protection in OECD Programmes (ICAPo), the European Commission, BASF SE, the US Food and Drug Administration (FDA), or the OECD.