



Interagency Coordinating Committee on the Validation of Alternative Methods

About ICCVAM

Many current methods for assessing potential hazards of chemical products use laboratory animals. **New approach methodologies (NAMs)** replace, reduce, or refine animal use and can improve human relevance of testing results.

The **Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM)** is composed of 17 federal research and regulatory agencies and institutes working together to advance the acceptance of NAMs. Through ICCVAM, these organizations:

- Share expertise on technologies and strategies to reduce animal use and improve human relevance.
- Provide guidance to test method developers and make recommendations on test method use.
- Work with U.S. and international stakeholders across sectors to advance test method acceptance.

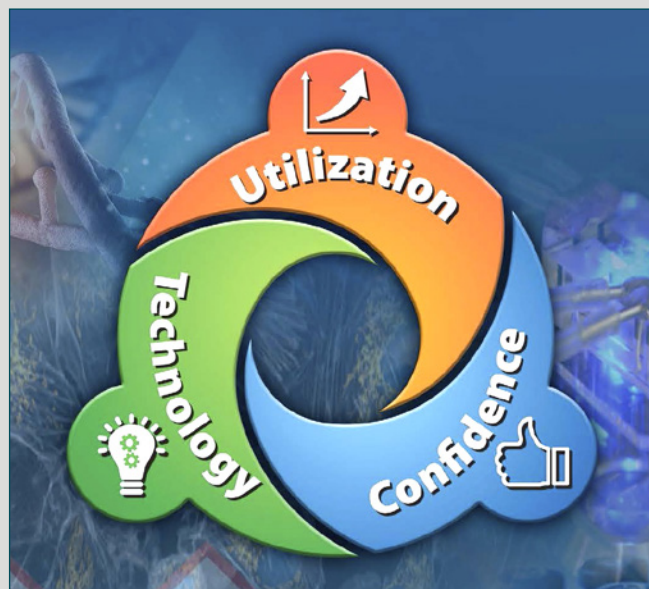
Success Story: Reducing Animal Use

In line with the ICCVAM Strategic Roadmap, many ICCVAM agencies have developed strategic plans to reduce animal use and advance NAMs. Specific initiatives enacted within ICCVAM member agencies to reduce animal use include:



- Use of computational methods by the U.S. Department of Defense and the U.S. Environmental Protection Agency (EPA) to predict toxicity and inform whether laboratory testing is needed to fulfill information needs.
- Criteria for testing waivers issued by the EPA, which describe contexts under which animal testing may not be needed to register new pesticides.
- Guidance for pharmaceutical developers issued by the U.S. Food and Drug Administration that provides for greater flexibility in considering alternatives.
- Guidance from the U.S. Consumer Product Safety Commission on use of alternatives to satisfy labeling requirements of the Federal Hazardous Substances Act.
- A draft white paper issued by the EPA that describes how the EPA will accept certain NAMs as alternatives for Tier 1 assays in its Endocrine Disruptor Screening Program.

Methods or approaches accepted by U.S. agencies for replacing, reducing, or refining animal use in testing are listed at <https://ntp.niehs.nih.gov/go/regaccept>.



Advancing Alternatives to Animal Testing

ICCVAM's activities are guided by the **Strategic Roadmap for Establishing New Approaches to Evaluate the Safety of Chemicals and Medical Products in the United States** via three strategic goals:

- Connect end users with the developers of new approach methodologies.
- Foster the use of efficient, flexible, and robust practices to establish confidence in new methods.
- Encourage the adoption and use of new methods and approaches by federal agencies and regulated industries.

The strategic roadmap is available at <https://ntp.niehs.nih.gov/go/natl-strategy>.

How ICCVAM Works

ICCVAM establishes ad hoc workgroups to perform tasks important for the development or validation of alternatives to animal testing in specific focus areas. These include activities supporting the goals of the strategic roadmap. Current ICCVAM workgroups and their activities are summarized at <https://ntp.niehs.nih.gov/go/iccvam-wg>. To support global harmonization, ICCVAM interacts with international counterparts through the International Cooperation on Alternative Test Methods and the OECD Test Guidelines Programme.

ICCVAM is supported by the National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM) at the National Institute of Environmental Health Sciences (NIEHS), one of the 27 Institutes of the National Institutes of Health (NIH). Information about activities and stakeholder engagement can be found on the NICEATM website at <https://ntp.niehs.nih.gov/go/niceatm>.

Success Story: Skin Sensitization

The Issue: Allergic contact dermatitis (ACD) may develop in people exposed to skin-sensitizing chemicals. Animals are widely used to identify chemicals that could cause ACD. International restrictions on animal testing for cosmetics and other products are driving interest in nonanimal test methods.

What ICCVAM Did: NICEATM and ICCVAM led a project to assess defined approaches that use nonanimal and computational inputs to predict human skin sensitization hazard at least as accurately as animal tests. The defined approaches are described in an internationally accepted Organisation for Economic Co-operation and Development (OECD) guideline issued in June 2021.

Impact: These activities have supported widespread regulatory acceptance of nonanimal approaches for skin sensitization testing.



Success Story: Acute Oral Toxicity

The Issue: Acute oral toxicity tests are used to assess whether substances might be toxic when ingested. These widely conducted tests help determine if substances need protective packaging, warning labels, and environmental release guides, or if protective equipment may be required for handling.

What ICCVAM Did: The ICCVAM Acute Toxicity Workgroup organized a global project to develop computational models of acute oral systemic toxicity, the Collaborative Acute Toxicity Modeling Suite (CATMoS), a free resource that uses chemical structure information to screen organic chemicals for acute oral toxicity potential.

Impact: CATMoS has been used by groups in five ICCVAM agencies in projects to predict toxicity for more than 10,000 chemicals.



Current Focus Area: Resources for Computational Toxicology

The Issue: Interest is increasing in the use of computational approaches and high-throughput screening (HTS) data to predict chemical toxicity. However, many available computational toxicology tools are difficult for inexperienced users or are not designed to answer questions of regulatory interest.

What ICCVAM Did: ICCVAM asked NICEATM to develop freely available computational tools to explore HTS data and predict chemical toxicity. The Integrated Chemical Environment (ICE) provides easy access to explore and contextualize chemical bioactivity, with data aligned to regulatory endpoints. The Open (Quantitative) Structure-activity/property Relationship App (OPERA) provides predictions on physicochemical properties, environmental fate, and toxicity endpoints.

Learn More: Information about ICE and OPERA is available at <https://ntp.niehs.nih.gov/go/niceatm-comptox>.



Integrated
Chemical
Environment



Subscribe to the NICEATM News email list to get updates on ICCVAM activities.
<https://ntp.niehs.nih.gov/go/niceatm-news>



Read the 2020-2021 ICCVAM Biennial Progress Report.
<https://ntp.niehs.nih.gov/go/iccvam-bien>

ICCVAM Member Agencies

- Agency for Toxic Substances and Disease Registry
- National Cancer Institute
- National Institute for Occupational Safety and Health
- National Institute of Environmental Health Sciences
- National Institute of Standards and Technology
- National Institutes of Health
- National Library of Medicine
- Occupational Safety and Health Administration
- U.S. Consumer Product Safety Commission
- U.S. Department of Agriculture
- U.S. Department of Defense
- U.S. Department of Energy
- U.S. Department of the Interior
- U.S. Department of Transportation
- U.S. Department of Veterans Affairs Office of Research and Development
- U.S. Environmental Protection Agency
- U.S. Food and Drug Administration

More Information

About NICEATM: <https://ntp.niehs.nih.gov/go/niceatm>
About ICCVAM: <https://ntp.niehs.nih.gov/go/iccvam>
NICEATM and ICCVAM meetings and workshops:
<https://ntp.niehs.nih.gov/go/3Rs-wksp>