

Session: Regulations and Policy Implications in Toxicology
8:30 AM – 12:00 PM, Thursday, March 19
Ballrooms I-IV

ICCVAM/NICEATM/ECVAM/JaCVAM Scientific Workshop on Acute Chemical Safety Testing: Advancing *In Vitro* Approaches and Humane Endpoints for Acute Systemic Toxicity Evaluations

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The evaluation and promotion of alternatives for acute systemic toxicity testing is one of ICCVAM's four highest priorities because (1) acute toxicity testing is the most commonly required product safety test worldwide, and (2) it can cause significant pain and distress to test animals. We cosponsored a public workshop in February 2008 to review and consider standardized procedures to collect information pertinent to understand the mechanisms of lethality that should be included in future rat acute systemic toxicity studies to support further development of predictive mechanism-based *in vitro* test methods. This international workshop also implemented one goal of the NICEATM–ICCVAM Five-Year Plan to identify approaches that would further reduce the potential pain and distress associated with acute toxicity testing by identifying more humane acute toxicity endpoints. The workshop reviewed public health significance and regulatory testing needs; human and animal assessments, biomarkers, and key pathways; humane endpoints; and the state of the science regarding *in vitro* methods that predict acute systemic toxicity. Breakout Groups identified knowledge gaps in understanding key toxicity pathways; recommended earlier humane endpoints for animal testing; suggested ways to obtain, from current *in vivo* testing models, mode of action and mechanistic information needed to develop and validate *in vitro* methods for assessing acute systemic toxicity; and explored avenues that would encourage industry to share information on *in vitro* and *in vivo* studies conducted in-house. This workshop recommended how mechanism-based *in vitro* test systems and earlier, more humane endpoints could be developed to further reduce, refine, and eventually replace animal use for acute systemic toxicity testing while ensuring the protection of human and animal health.

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