Principles for a Modernized Chemicals Policy: Strong Regulations Start with Modern Science

Chemicals are regulated based on their potential for causing harmful effects; therefore, whether, how, and when toxicity testing is conducted is an essential cornerstone to any chemical safety legislation, and we need to ensure it is laid down correctly.

Revision of the Toxic Substances Control Act must incorporate scientific approaches to information collection based on human-relevant testing methods developed with modern biological understanding, as outlined in the National Academy of Sciences report Toxicity Testing in the 21st Century: A Vision and Strategy.

The recommendations below encompass core principles that would ensure an efficient toxicity testing process now, and lay the foundation for a more efficient, protective, and humane toxicity-testing paradigm in the near future.

A More Strategic, Flexible Approach to Testing

- The law should be flexible to allow incorporation of new approaches as they develop. References to animal test-based data requirements or lists of tests should be avoided.
- Prioritization and testing of chemicals should be based on exposure and/or biological effect; current high-throughput non-animal tests should be used to target testing to the most toxic chemicals.
- Testing of chemicals or categories of chemicals should be tailored to specific chemical properties by applying a flexible, stepwise testing strategy that uses a “weight-of-evidence” of the available information. A minimum data set for all chemicals should be avoided.

Minimization of Animal-Based Testing

- Require the use of available non-animal methods in place of animal methods and new ones as they are developed.
- Request EPA update Congress on its progress in implementing alternative methods through regular review and reporting.
- Avoid further animal testing if adequate animal data are already available for an endpoint.
- Provide for publication of all available information on chemicals considered for regulation, and plans for testing, before any new testing takes place.
- Require coordination between EPA and the regulatory agencies of other regions, especially with regard to REACH and other comprehensive testing programs.

Promoting Development and Incorporation of Evolving Science

Explicit language within the law should provide for funding for alternative methods development and translation as part of a larger mandate to implement the vision for “21st century toxicology” put forward by the NAS—a yearly $15 million commitment would complement spending from other sources. Importantly, this is only about 5% of the money the US currently spends on investigating the health risks of chemicals each year.