To address this request, the NRC prepared a report that provides a comprehensive review of the current state of knowledge on acute systemic toxicity and identifies key areas for future research.

To support its efforts to prevent debilitating acute exposures to toxicants, the NRC has developed a Roadmap that establishes a new framework for evaluating the safety of potentially toxic substances.

The Roadmap is designed to:
- Develop a database of existing acute systemic toxicity data
- Evaluate the usefulness of the GHS additivity formulas for classifying acute systemic toxicity
- Identify validated alternatives and status of acceptance by agency
- Identify obstacles to implementation

The conceptual framework and strategy proposed by the NRC are based on the following principles:
1. A tiered prioritization strategy for using computational, nonmammalian in vivo, and in vitro approaches to predict acute systemic toxicity
2. Accumulation of high quality data (in vitro and in vivo) for building and evaluating new approaches
3. Identification of mechanisms of acute toxicity that may constitute key events in adverse outcome pathways

The Roadmap will establish a new framework evaluating the safety of potentially toxic substances, including pesticides, industrial chemicals, chemical weapons agents, and related chemical hazards.

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