



Highlights of [GAO-09-353](#), a report to congressional requesters

Why GAO Did This Study

Biomonitoring, which measures chemicals in people's tissues or body fluids, has shown that the U.S. population is widely exposed to chemicals used in everyday products. Some of these have the potential to cause cancer or birth defects. Moreover, children may be more vulnerable to harm from these chemicals than adults. The Environmental Protection Agency (EPA) is authorized under the Toxic Substances Control Act (TSCA) to control chemicals that pose unreasonable health risks.

GAO was asked to review the (1) extent to which EPA incorporates information from biomonitoring studies into its assessments of chemicals, (2) steps that EPA has taken to improve the usefulness of biomonitoring data, and (3) extent to which EPA has the authority under TSCA to require chemical companies to develop and submit biomonitoring data to EPA.

What GAO Recommends

GAO recommends that EPA develop a comprehensive research strategy to improve its ability to use biomonitoring in its risk assessments; establish an interagency task force to coordinate federal biomonitoring research; and determine the extent of its legal authority to obtain biomonitoring data under TSCA, asking Congress for more authority if necessary. EPA agreed with the first two recommendations and did not disagree with the third, but provided substantive comments on its implementation.

View [GAO-09-353](#) or [key components](#). For more information, contact John Stephenson at (202) 512-3841 or stephensonj@gao.gov.

BIOMONITORING

EPA Needs to Coordinate Its Research Strategy and Clarify Its Authority to Obtain Biomonitoring Data

What GAO Found

EPA has made limited use of biomonitoring data in its assessments of risks posed by commercial chemicals. One reason is that biomonitoring data relevant to the entire U.S. population exist for only 148 of the over 6,000 chemicals EPA considers the most likely sources of human or environmental exposure. In addition, biomonitoring data alone indicate only that a person was somehow exposed to a chemical, not the source of the exposure or its effect on the person's health. For most of the chemicals studied under current biomonitoring programs, more data on chemical effects are needed to understand if the levels measured in people pose a health concern, but EPA's ability to require chemical companies to develop such data is limited. Thus, the agency has made few changes to its chemical risk assessments or safeguards in response to the recent increase in available biomonitoring data.

While EPA has initiated several research programs to make biomonitoring more useful to its risk assessment process, it has not developed a comprehensive strategy for this research that takes into account its own research efforts and those of the multiple federal agencies and other organizations involved in biomonitoring research. EPA does have several important biomonitoring research efforts, including research into the relationships between exposure to harmful chemicals, the resulting concentration of those chemicals in human tissue, and the corresponding health effects. However, without a plan to coordinate its research efforts, EPA has no means to track progress or assess the resources needed specifically for biomonitoring research. Furthermore, according to the National Academy of Sciences, the lack of a coordinated national research strategy has allowed widespread chemical exposures to go undetected, such as exposures to flame retardants. The development of such a strategy could enhance biomonitoring research and link data needs with collection efforts.

EPA has not determined the extent of its authority to obtain biomonitoring data under TSCA, and this authority is untested and may be limited. The TSCA provision that authorizes EPA to require companies to develop data focuses on the health and environmental effects of chemicals. Since biomonitoring data alone may not demonstrate the effects of a chemical, EPA may face difficulty in using this authority to obtain biomonitoring data. It may be easier for EPA to obtain biomonitoring data under other TSCA provisions, which allow EPA to collect existing information on chemicals. For example, TSCA obligates chemical companies to report information that reasonably supports the conclusion that a chemical presents a substantial risk of injury to health or the environment. EPA asserts that biomonitoring data are reportable if the chemical in question is known to have serious toxic effects and biomonitoring information indicates a level of exposure previously unknown to EPA. EPA took action against a chemical company under this authority in 2004. However, the action was settled without an admission of liability by the company, so EPA's authority to obtain biomonitoring data remains untested.