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Green Chemistry Legislation in Congress and Chemical Regulation in Europe

Proposed legislation in Congress would create an inter-agency green chemistry program

The U.S. House of Representatives recently passed a bill that would create a new so-called green chemistry research program, which would provide inter-agency coordination on discovering and disseminating environmentally benign chemicals and substances in commerce, and would make the head of EPA's Office of Research & Development (ORD) Co-chair of the working group responsible for implementing the effort. This legislation would potentially hand EPA expansive new powers to influence chemical risk research and management, if the bill is ultimately enacted. The bill still needs to be approved by the Senate, where there is modest bipartisan support for this legislation, including Senators Olympia Snowe (R-ME) and John Kerry (D-MA).

Among other provisions, the bill would create a new federal Green Chemistry Research and Development Program charged with "providing sustained support for green chemistry research, development, education and technology transfer" at federal agencies and qualifying universities and in industry. For instance, the bill creates grant opportunities for universities to retrain chemists in green chemistry research and applications, provided the institutions "enter into a partnership with two or more companies in the chemical industry."

The overall program, to be jointly overseen by an interagency working group co-chaired by the ORD Assistant Administrator and the Director of the National Science Foundation (NSF), would offer a variety of grants and extramural support for green chemistry research and would direct federal agencies to "create incentives for consideration and use of green chemistry processes and products [and] facilitate the adoption of green chemistry innovations," including technology transfers from federal labs to industry.

In addition to creating the research and development program, the bill would also direct the National Academy of Sciences to "conduct a study of the factors that constitute barriers to the successful commercial application of promising results from green chemistry research and development," and to report findings and recommendations to the House and Senate Science Committees within 18 months of the bill's passage.

Green chemistry is being aggressively promoted by environmentalists and actively supported by EPA as a way to design chemicals with relatively benign properties, posing less risk to human health and the environment than chemicals designed without considering green chemistry principles. For example, green chemistry is one driver behind the European Union's new comprehensive chemical management plan known as the Registration, Evaluation, Authorization and Restriction of Chemicals, or REACH, program.

Following that program's pollution prevention rationale, the House bill's main sponsor, Rep. Phil Gingrey (R-GA), said during floor discussion of the bill that preventing chemical contamination is "far preferable to cleaning up pollution and waste at a later date." Additionally, he said, "The innovation created by this enhanced research will subsequently spur economic growth as developing new products and processes is an integral component of many industries, from fabrics to fuel cells, as an example." He noted that "companies and corporations that have voiced their strong support for this bill realize that the advancement of green chemistry is positive for not only their businesses, but also our country's environment [and] our economy."

The measure was co-sponsored by several prominent Democrats, including House Science & Technology Committee Chairman Bart Gordon (D-TN), and faced no significant opposition during debate. The bill faces a less certain future in the Senate, where similar previous efforts by Gingrey and Snowe failed to gain traction under Republican committee leadership, but could be aided by Gordon's strong endorsement and the support for previous versions by the American Chemistry Council (ACC), a chemical industry trade group.

The bill authorizes EPA to receive $10 million to implement the program in fiscal year 2008, $11 million for FY09 and $12 million for FY10. At the same time, it authorizes $13 million to the Energy Department for FY08, increasing by $1 million each of the next two fiscal years. Other agencies would also receive funding under the bill, including NSF and the National Institute of Standards & Technology.

Pre-registration process begins for European Union REACH chemical legislation

On December 18, 2006, the European Union (EU) Council of Ministers ended years of drafting and negotiating, and finally approved the Registration, Evaluation, and Authorization of Chemicals (REACH) legislation. This new legislation took effect on

June 1, 2007 and is now in the early implementation stages.

One of the first steps in the broad and comprehensive new REACH legislation is a pre-registration process, whereby companies identify chemical substances that they intend to manufacture, use or import into the EU. Chemical substances that exceed the threshold levels are subject to the registration, evaluation and authorization process of REACH. Part of this process entails collecting data on human health and environmental exposure that must be submitted to the EU.

All of the companies that pre-register for the same metal, metal compound or other chemical substance will be placed into Substance Information Exchange Forum (SIEF) for that substance so that the technical data can be collected and the costs can be shared among the registrants. To aid in this process, individual metals consortia have already formed to begin addressing the metals, metal compounds and other chemical substances that will need to be registered and the data gaps for each substance. Any company that wants to market a metal or metal compound in the EU (as well as other chemical substances) must register for that substance and must submit the required technical data.

Cost estimates for assembling the requisite information are as high as one to two million Euros per substance. The most cost-effective way to satisfy this requirement is to be engaged with a Chemical Substances Consortia and share the costs of collecting the data to meet the technical requirements of REACH. Otherwise your company would be responsible for providing all of the information to be authorized to market your product in the EU.

Many of the consortia are finalizing the agreements for the founding members of the groups in Fall 2007. If your company intends to market any of these chemical substances in the EU, you should consider joining these consortia and share the costs of testing and data collection.

Following the registration process, chemical substances will be evaluated and assessed to determine if their use should be authorized. Those substances found to be persistent, bioaccumulative, very bioaccumulative and toxic will be authorized for use subject to certain safeguards. These safeguards could include a plan to replace the substance with a safer alternative, research to develop safer alternatives, imposition of necessary controls or a demonstration that failure to authorize use would impose significant economic damage.

The comprehensive approach to the REACH legislation marks a dramatic change in how chemical substance will be managed and used in the global marketplace. Companies that intend to use, manufacture or export chemicals in Europe should participate in the pre-registration process. More information on the REACH legislation is available at www.reach-metals.eu, www.eurometaux.org, and www.icmm.com. *P&SF*