BRUSSELS -- The head of the U.S. Chamber of Commerce warned European Union policy makers to expect a vigorous legal challenge if they adopt a tough version of proposed new chemical-industry regulations now moving through the European Parliament.

"We're going to sue the hell out of them on some of this stuff," Chamber President Thomas Donohue said in an interview, citing courts in the 25 EU member nations as likely venues.

Mr. Donohue, who runs one of the U.S.'s most influential business lobbies, said his comments reflect the deep concern of U.S. manufacturers that the chemicals legislation would disrupt international trade and supply chains and greatly increase costs. "They have no idea of the interdependence of our economies," he said of European environmental groups and policy makers.

But supporters of the proposal -- known as "Reach," an acronym for registration, evaluation and authorization of chemicals -- dismissed as bluster Mr. Donohue's threats to mount legal challenges. "I think this is a lot of noise about nothing," said Karl Wagner, chief lobbyist on the issue for the World Wildlife Fund, an influential environmental group that is partly funded by the EU. The proposal "is about improving the health of the average citizen," he said.

The regulations require the chemical industry to conduct more rigorous testing of chemical substances to ensure they aren't harming human, animal or plant life. In the two years since they were proposed, the regulations have mushroomed into one of the most intensely lobbied and contentious issues in Brussels.

Environmental activists and politicians have released tests showing traces of chemicals in their own blood, generating widespread publicity.

The European chemical industry, much of it based in Germany, has condemned the blood tests as scaremongering. Without chemicals, industry groups say, modern life wouldn't be possible, because they exist in everything from electronics to shampoo.