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So What?
Projected Changes in Chemicals Management under the Proposed European Chemicals Policy

October 16, 2003

The European Union is embarking on a major restructuring of the policies that guide the management of industrial and commercial chemicals across European countries. These changes, which are referred to under the acronym REACH (Registration, Evaluation and Authorization of Chemicals), fundamentally alter the responsibilities governments and industries carry in monitoring, testing and managing chemicals in industrial processes and commercial products. Under the REACH proposal industries must register all chemicals used in manufacture over one metric ton per year. This registration will include testing requirements, which vary according to production volume or concern about the substance. Those chemicals of highest concern will require special government authorization for uniquely defined uses. Recent estimates suggest that about 30,000 chemicals will be covered by the new REACH requirements.

These new policies are being proposed because of broad critiques of existing policies which are seen as not adequately protecting human health and the environment. The new chemicals polices are being proposed in order to increase environmental and public health benefits. An obvious question that arises is how these new policies will provide better protections than existing policies. Here we offer some tentative answers.

First, under the REACH proposal existing chemicals will receive as much attention as new chemicals. Under existing policies more than 90% by volume of the chemicals currently on the market (those on the market prior to 1980) were 'grandfathered', legally deemed safe and not needing government review, including sulfuric acid, sodium hydroxide, phthalate plasticizers, polybrominated diphenyl ethers and most other halogenated hydrocarbons. Yet, under these policies new chemicals being proposed by chemical manufacturers must go through a government health and environmental review process . The REACH proposal will treat new and existing chemicals similarly, ensuring that existing chemicals will have to meet the same basic requirements to stay on the market as those that are newly proposed for market entry.

Second, the REACH proposal will encourage more chemical testing and information about chemicals uses and hazards than existing policies. It will also require better provision of information along product supply chains, the lack of which inhibits effective chemicals management. Government data collection and testing requirements on currently used chemicals vary widely by chemical. The registration process will create a basic and uniform database for all chemicals covered under the proposal. This database will include information on chemical toxicity, uses, and risks. The evaluation process will require further testing of specific chemicals with more test results being made available. The REACH proposal includes the establishment of a new European chemicals agency where all of this information will be centralized.

Third, the REACH proposal will set the basis for more aggressive risk management and chemical use restrictions than current policies. Currently government chemical restrictions and management policies vary considerably by country and by chemical and take long periods of time to implement. The authorization process will expedite, formalize, and harmonize government restrictions policies across the European Union on dangerous chemicals such as carcinogens, mutagens, reproductive toxins, and persistent and bioaccumulative toxins, presuming that chemicals with these inherent hazards are dangerous. Firms wanting to continue using them will need to seek permission for specific uses, which must be considered in the context of available substitutes. It is anticipated that this will mean more restrictions on these chemicals than result from current policies. Further, the REACH proposal establishes a time limited restrictions process for other chemicals of concern.

While several studies have examined the economic impacts and benefits of the REACH proposal, often coming to opposite conclusions, there is at least one European study that has addressed the question of differential policy effects. The study conducted by the British consultancy, Risk and Policy Analysts, Ltd., (*The Impact of the New Chemicals Policy on Health and the Environment*, June, 2003) and prepared for the European Commission attempts to consider the effects of these policy changes on specific chemicals. This study focused on four chemicals of wide concern– nonylphenols, short chain chlorinated paraffins, tri-butyl tin and tetrachloroethylene–and sought to predict how these substances would be treated differently under the REACH proposal than under existing European chemicals policies.

The study found that there would be additional chemical testing required under the REACH proposal that is not currently required. More importantly, the REACH proposal would speed up the rate at which additional test data was produced for the common existing chemicals. In addition, there would be more chemical test data made available on the potential substitutes of chemicals of high concern (for instance, those undergoing authorization procedures). More data made available more rapidly would mean that concerted risk management action could be taken more rapidly and more broadly across all of the member countries of the European Union. It would also ensure better sharing of information among producers and users of chemicals.

The study identifies four key advantages of the REACH proposal over the current policies. These include:

- Increased potential to identify hazards before damages occur, rather than waiting for monitoring;
- More rigorous assessment of chemical risks, because more data is made available rapidly and in a systematic manner;
- Encouragement of industry to take more proactive, voluntary risk management actions because data is more readily available and various stakeholders are more likely to create effective pressures for change; and
- Greater likelihood of governments to take quicker regulatory actions on the most hazardous chemicals.

The study concludes "...that the risks associated with all of the case study chemicals could have been controlled earlier had the testing, risk assessment and authorization requirements of REACH been implemented earlier. This suggests that damages from the use of each of the case study chemicals could have (and most probably would have) been reduced earlier".

Today, many new chemical concerns are being recognized by authorities for which there is little clear scientific proof. Concerns raised over exposure to endocrine disrupters, chemical sensitizers, asthmagens, and chemicals that persist in the human body add to older concerns over exposure to carcinogens and reproductive toxins. However, the absence of information and the paucity of scientific studies and chemical testing leaves governments and industries with little guidance for risk management. The REACH proposal would generate more data, more rapidly, and provide the basis for more confident government and industry responses. The authorization process (including the list of chemicals subject to authorization) would provide critical regulatory and market signals on the types of substances to avoid on the basis of their hazardous properties.

Recent concerns over brominated flame retardants (the polybrominated biphenyl ethers), perfluorocarbons (such as prefluorooctanoic and perfluorooctanesulfonic acids) provide examples. Both of these chemical compounds have recently come to the attention of the public and authorities due to their discovered ubiquity and pervasiveness in human bodies. Both compounds are only recently manufactured (over the past forty years) and are widely used. The flame retardants are used in plastics, foams and textiles, while the perfluorocarbons are used in product surface treatments (water and stain repellants). Both are highly persistent and appear to be tumorgenic or endocrine disrupting in animal tests. While these compounds have been found to be widely distributed in the environment and human testing samples, there is little conclusive evidence of their human health effects. Given the persistence and toxicity concerns associated with these substances they will likely be subject to the authorization requirements under REACH.

However, had REACH been in place when these chemicals were developed decades ago, they may have never been placed on the market. Data would have been collected on their properties, toxicity and uses and classification as chemicals of high concern based on this data may have occurred. Even if they had reached the market, REACH would have accelerated data collection on these substances as well as their potential substitutes. With better, more rapidly developed data on both the chemicals of concern and their potential replacements, governments and industries would be more likely to take effective action earlier, which could provide significant social and economic benefits in reduced human morbidity and mortality and reduced health care, health insurance, workers compensation, and social security costs. Indeed, earlier action would also benefit the environment, causing less contamination and ecological damage and requiring less social expenditures for environmental clean up, remediation and restoration.