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FROM: T. G. Grumbles
DATE: October 25, 1991

VISTA

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SUBJ: POLYMERS RECYCLING TSCA ISSUES

The attached article from Keller & Heckman describes potential concerns to be considered in polymer recycling programs. I don't believe the issues described are significant to our current efforts, but we should keep these issues in mind as we progress.

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Attachment

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Environmental Regulatory *advisory*

Legal Briefing from Keller and Heckman

In a Continuing Series

Fall/Winter 1991

COMMENTARY

The Waste Disposal Problem and the Free Market by Jerome H. Heckman

It is time to take a closer look at some of the paradigms that are being relied upon by regulators, environmentalists, and so-called thought leaders in the setting of policies aimed at solving the solid waste "problem." As Thomas Kuhn, the author of The Structure of Scientific Revolutions instructs, "almost every significant breakthrough in the field of scientific endeavor is first a break with tradition, with old ways of thinking, with old paradigms."

There is an almost indisputable precept that teaches that the solutions to the solid waste problem lie in a hierarchy of source reduction, recycling, and reduced but continued use of landfills and incineration. There can be no quarrel with this set of goals. But, the idea that the goals of the hierarchy can only be achieved if the government plays a leading role in the process is a paradigm or precept that deserves a serious challenge.

The Government's Role

Imagine government's regulatory and legislative approaches bringing about a complete ban on selected types of packaging, for example, plastic. Disregard the inconvenience this would cause the public in terms of loss of popular products like easily microwaveable foods, and the possible disappearance of "shatterproof" cosmetic bottles and detergent containers, and even two-liter soda bottles. If such bans are mandated by governments, will this do anything to help with the solid waste problem?

In a free economy, products stay on the market only because they meet consumer needs; consumers "vote" for or against them with their dollars. If all the products packaged in plastic packaging were suddenly banned, the need for the products would not vanish. Products made of other materials would quickly replace the banned products. There might then be less plastics, but there would be more of the substitutes that won't do the consumer's job as well, and will fill the landfills at least as rapidly.

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A TSCA Trap for Polymer Recycling

by John B. Dubeck

Corporate efforts to minimize toxic emissions and process wastes are being complicated by the unyielding requirements of the Toxic Substances Control Act (TSCA). In response to EPA Administrator Reilly's challenge that toxic releases of seventeen toxic chemicals be reduced by 33 percent by the end of 1992 and by 50 percent by the end of 1995, a number of chemical manufacturers are undertaking process revisions. They are also implementing other waste reduction strategies for environmentally laudable reasons and to minimize potential future liability.

Enthusiasm for implementing the changes, however, has caused some manufacturers to overlook the TSCA implications of various process revisions. EPA's Office of Toxic Substances (OTS), the office responsible for enforcing TSCA, adopted a makeshift approach to polymer nomenclature in the rush to establish the TSCA Inventory. The shortcuts taken at that time now create a particular problem - including substantial fines -- for polymer manufacturers seeking to implement process changes.

Process changes that implement environmentally advantageous waste minimization objectives can escape the normal internal TSCA controls that are now commonplace for new product development. Such changes have "fallen through the cracks" in several manufacturers' carefully developed systems for assuring (1) that new products are properly developed in accordance with TSCA's R&I exemption and (2) that PMN's are

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filed (and the 90 day review period has expired) prior to initiating commercial production. Since the waste reduction strategies that a company is likely to pursue are those that do not adversely affect specifications or performance of the final product, it is not too surprising that the TSCA requirements for new products tend to be overlooked.

In a typical scenario, a process stream containing minimum product value is captured, concentrated, or otherwise treated to facilitate recovery of raw materials. Returning the recycled material into the commercial process improves product yield by the amount of the recovered material. Assuming that the finished product meets all specifications, the process change is implemented immediately. For purposes of TSCA, and especially if the product is a polymer, the product manufactured with the recycled stream will almost certainly *not* be on the Inventory.

Polymers are listed on the TSCA Inventory on the basis of the chemical substances *used* (at greater than 2 percent of the weight of the finished polymer) to manufacture them, not on the basis of what is *manufactured*. Recovering trace concentrations of valuable constituents from a waste stream in an efficient manner is a technological challenge. If the material recovered happens to be an oligomer, or a salt, or some other derivative of the virgin starting material, a PMN and a 90-day delay in commercial implementation is almost sure to follow. This will be true *even though the end product is absolutely identical* -- even on an atomic scale -- to the original (all virgin) product. It is what is *used* that counts.

Companies must appreciate that the major cost of TSCA is not the cost of *complying* -- a \$2500 PMN filing fee plus the time and effort required to prepare a PMN -- but the cost of *avoiding noncompliance*. Penalties are exacted without regard for whether there had been a deliberate attempt to gain a commercial advantage by ignoring the requirements of TSCA. A company becomes liable for fines simply because

it failed to recognize that a PMN was required.

The ultimate absurdity of the polymer nomenclature system is that importers of plastic articles may find themselves in violation of the PMN requirements of TSCA by finding an alternate use for the resin content of defective or recovered products. A simple example illustrates that this is not far-fetched. At the National Plastics Exposition (NPE) in Chicago this past June, General Electric demonstrated the conversion of old computer housings made from GE resins into roof tiles.

What if the computer housing had been imported and had been made from

a resin that was not on the TSCA Inventory? If an importer established a similar buy-back program for computer housings, the company would need to file a PMN for the polymer. (Grinding any article into particles takes it out of the article definition since "fluids and particles are not considered articles regardless of shape or design.")

Surprise! Recycling the imported article constitutes manufacture of a chemical substance and gives rise to fines on the order of \$25,000 per day for every day that articles are ground into particles.

Beware. A TSCA trap may lurk behind even a simple process change.

TSCA's "pH Neutralizer" Exclusion

by Justin C. Powell, Ph.D.

Due to widespread misunderstanding, EPA plans to clarify an exclusion under the Toxic Substances Control Act (TSCA) regulations and reopen the TSCA Inventory. EPA will issue a *Federal Register* notice that appends an explanatory note to 40 C.F.R. §§ 710.4(d)(7) and 720.30(h)(7). These provisions provide an exclusion (commonly called the "pH neutralizer" exclusion) from TSCA Inventory requirements and from the premanufacture notification (PMN) requirements for certain chemical substances.

The Inventory is to be opened for 120 days after the clarification to permit reporting of those substances which, in light of the clarification, have become subject to PMN reporting. Substances manufactured up to the effective date of the notice would be eligible to be added to the Inventory (unless EPA, in its sole discretion, decides that the failure to file a PMN was not based upon a good faith interpretation of the exclusion).

EPA's plans are discussed in a draft working paper dated July 8, 1991, on which EPA accepted informal comments during the summer. Because the proposed clarifications are referred to

as "technical amendments," the first notice of this issue in the *Federal Register* is likely to be the announcement of the final clarification.

Much more than pH neutralization escapes reporting under the pH neutralizer exclusion. Chemical substance escape reporting if they are the result of chemical reactions that occur when other chemical substances function solely as intended to impart a specific "physicochemical" effect. Such substances are considered to be manufactured for commercial purposes under TSCA, but they are not considered to be manufactured for distribution in commerce as chemical substances, *per se*, and have no commercial purpose separate from the substance, mixture, or article of which they may be a part.

The regulated community should be encouraged by the possibility that this exclusion will be fully clarified and the Inventory reopened. Reopening the Inventory could mitigate TSCA compliance burdens that have long plagued the regulated community. ♦

Copies of EPA's draft working paper are available upon request.