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DR. R. T. GOTTESMAN

TO: Staff Directors
OHEIC Steering Committee

FR: Dennis C. Burgess *B*

RE: Amendments to the Hazardous Waste Regulation

On June 13, 1986 in Federal Register, Volume 51, Number 114, page 21648, the EPA proposed a new rule regarding changes in the Hazardous Waste System, 40 CFR parts: 261- Identification and listing of hazardous waste, 271 - Requirements for authorization of state hazardous waste programs and 302 - Designation, reportable quantities and notification.

The rule proposes to amend it's hazardous waste identification and listing regulations by:

- expanding the toxicity characteristics to include an additional 38 chemicals;
- and by introducing a new Toxicity Characteristic Leaching Procedure (TCLP) to be used in the toxicity characteristic assessment.

If the listed chemicals leach out of a plastic scrap material utilizing the TCLP above the regulatory levels proposed, then the materials are classified as hazardous waste and therefore, may not be disposed of in a sanitary landfill. According to EPA the plastic industry represents 75% of the facilities which will be affected.

Listed below are the new chemicals of concern to the plastics industry. The TCLP regulatory levels have been back calculated to determine the residual monomer concentration levels, equal or below which there would not be a sufficient amount in the resin to exceed the limits even if it all was extracted. Products containing higher levels of residuals would have to be tested by the TCLP procedure.

	Proposed TCLP Regulatory Level (PPM in extract)	Residual Monomer In Polymer	Plastics Used In
Acrylonitrile	5	100 ppm	ABS, SAN Nitrile Rubber
o,m,p - Cresols	10	200 ppm	Phenolic Resin
Phenol	14.4	288 ppm	Phenolic Resin
Vinyl Chloride	0.05	1.0 ppm	PVC Resin

Regulated under old EP procedure

Lead	5	100 ppm	PVC Stabilizer Pigments
Cadmium	1	20 ppm	PVC Stabilizer Pigments
Chromium	5	100 ppm	Pigments & Stabilizers

Please review promptly with your interested operating units. Comments on the proposal are due August 11, 1986. The questions to be addressed are:

- 1) Do these chemicals present a sufficient hazard to health or the environment to be added to the list? If not, why?
- 2) If so, are the proposed levels for extraction correct or too conservative? If the latter, why?
- 3) Is the new TCLP realistic, exaggerated, feasible, too costly? Why?

We would like to establish an ad hoc task group to develop SPI comments and need "volunteers" who can represent the affected product groups.

If I can be of any further assistance, please do not hesitate to call. The proposed regulations, including the TCLP procedure, are attached.

EPA broadens its list of hazards

The Environmental Protection Agency (EPA) is seeking to expand significantly the universe of chemicals that are designated hazardous wastes under the 1984 amendments to the Resource Conservation and Recovery Act (RCRA). A regulation proposed by EPA in the June 13 *Federal Register* would, if adopted, add 38 organic compounds to the list of 14 substances EPA uses in one of its tests to identify wastes as hazardous and earmark them for management under RCRA. The proposed rule would also amend that identification test—the Extraction Procedure Toxicity Characteristic (EPTC)—by adding models to account for the mobility and dilution of compounds as they migrate from landfills into groundwater.

The proposed regulation is "probably the most significant waste rule to come out since 1980" when RCRA regulations were first promulgated, says Richard C. Fortuna, executive director of the Hazardous Waste Treatment Council (HWTC). The rule creates "a whole new generation of tests" for determining waste categories that are "going to bring a lot of people into the [RCRA] system who were previously not in it."

Reasons. EPA thinks the proposal is significant, too, but for different reasons. "I think that adding additional characteristics of toxicity is very important," says Alan S. Corson, deputy director of EPA's characterization and assessment division. "We have been concerned for some time that we [did not have] enough chemicals on the [RCRA] list" of compounds considered hazardous, Corson explains. He believes that adding 38 organic compounds to the list of eight metals, four pesticides and two herbicides (table) "certainly is a step in the right direction."

However, expanding the universe of hazardous constituents is only one facet of the proposal to make EPA's RCRA waste-identification program more comprehensive. Under RCRA section 3001, EPA must identify hazardous wastes in one of two ways: by developing lists of specific wastes that, if mismanaged, would endanger human health or the environment; or by identifying characteristics of wastes that could render the wastes hazardous if badly managed.

The two methods, says an EPA staffer, "are fundamentally different." To list a waste as hazardous, EPA does a detailed industry study. The study places strong emphasis on the hazard-

EPA's 52 organic compounds toxicity that are contained in	
Chemical	
Acrylonitrile	5.0
Arsenic	5.0
Barium	100.0
Benzene	0.07
Bis(2-chloroethyl) ether	
Cadmium	
Carbon disulfide	
Carbon tetrachloride	
Chlordane	0.03
Chlorobenzene	1.4
Chloroform	0.07
Chromium	5.0
c-Cresol	
m-Cresol	
p-Cresol	
2,4-D	
1,2-Dichlorobenzene	4.3
1,4-Dichlorobenzene	10.8
1,2-Dichloroethane	0.40
1,1-Dichloroethylene	0.1
2,4-Dinitrophenol	
Endrin	
Heptachlor (all isomers)	
Hexachlorobenzene	
Hexachlorobutadiene	0.72
Hexachloroethane	4.3
Isobutanol	36.0
Lead	5.0
Lindane	
Mercury	
Methoxychlor	
Methylene chloride	
Methyl ethyl ketone	7.2
Nitrobenzene	0.13
Pentachlorophenol	3.6
Phenol	14.4
Pyridine	
Selenium	
Silver	
1,1,1,2-Tetrachloroethane	
1,1,2,2-Tetrachloroethane	1.3
Tetrachloroethylene	0.1
2,3,4,6-Tetrachlorophenol	1.5
Toluene	14.4
Toxaphene	
1,1,1-Trichloroethane	
1,1,2-Trichloroethane	
Trichloroethylene	0.1
2,4,5-Trichlorophenol	5.8
2,4,6-Trichlorophenol	0.30
2,4,5-TP (Silvex)	0.14
Vinyl chloride monomer	0.06

Source: Environmental Protection Agency

ous constituents contained in specific wastes from the industry under scrutiny—that is, the survey is waste-specific. The listing process can take years.

In contrast, EPA identifies waste characteristics by a "generic process." The process deals with the properties a waste might have that could cause it to become hazardous if that waste were improperly managed. Proper management would keep it from being designated as hazardous, thus removing it from RCRA's purview.

New tests. The proposed rule not only adds compounds to the characteristic list, but also adds new tests using different standards from those used for the original list of 14 compounds. The original test is known as EPA's Extraction Procedure—the EP in the EPTC. The EP creates a liquid extract of a waste, similar to the leachate that might travel from a landfill to groundwater near a waste facility. The extract is analyzed for the 14 compounds to determine whether any are present at or above the regulatory levels set by EPA.

To set the regulatory level, EPA takes into account the dilution or attenuation in each extract that might occur as it leaches into the water. The current EPTC uses the National Interim Primary Drinking Water Standards to set a toxicity threshold for each pollutant, and combines these with a "generic dilution/attenuation factor" of 100 to yield a regulatory threshold. For example, the toxicity threshold level for lead is 0.05 mg/l. To reach the regulatory level for lead under RCRA, multiply the 0.05 mg/l health level by 100, the dilution/attenuation factor.

The proposed regulations also add a different and more complex leaching test, called the Toxicity Characteristic Leaching Procedure (TCLP), developed specifically to yield the regulatory levels for the 38 added organics. In the new procedure, EPA uses a set of chronic toxicity reference levels to establish a toxicity threshold for each compound. The TCLP combines these toxicity levels with a compound-specific dilution/attenuation factor, derived from a groundwater transport model.

HWTC's Fortuna thinks that this "new analytical procedure may create a problem," in that it is "a more difficult procedure to run consistently" and may generate data that is hard to verify or reproduce. His worry is shared by H. Anthony Breard, Jr., vice-president of

government and public affairs at Cecos International. "We've raised that question [with EPA] for a year now. We don't feel that the test [data and procedures] have been replicated."

Another potential downside to the TCLP, Fortuna says, is that EPA could require generators to test every batch "to see whether you're in the [RCRA] system or not, based on the constituent levels." The proposal is unclear on how often EPA will ask generators to test.

Costly. A third problem with the proposal is that the new testing requirements will be costly and time-consuming. "You're going to have to analyze for many more things," says Fortuna. "It's not going to be cheap."

However, Corson insists that the financial impact on industry will not be "undue." The rules will bring "a number of new wastes into the system," he says, and to the "smaller companies, this may be seen as a burden." Large waste generators can more easily absorb the cost of the tests, which, he says, run \$2,000-3,000/test. The hardest hit, Corson suggests, will be those com-

panies that have not yet fallen under RCRA's umbrella. He notes that EPA predicts the rules will affect only 1,265 facilities.

"The impact" of the proposed rules "might be a lot greater than EPA thinks," says Charles A. Johnson, tech-

EPA is creating 'a whole new generation of tests' for determining waste categories

nical director of the National Solid Wastes Management Assn. "I am concerned," he continues, "that EPA may not have examined all of the possible materials that might turn out to be hazardous" and the economic impact that the new rules might have on the waste-treatment industry.

New testing costs are not the only concern, Fortuna says. Facilities also will have to comply with other RCRA provisions, such as retrofitting impoundments and containment lagoons.

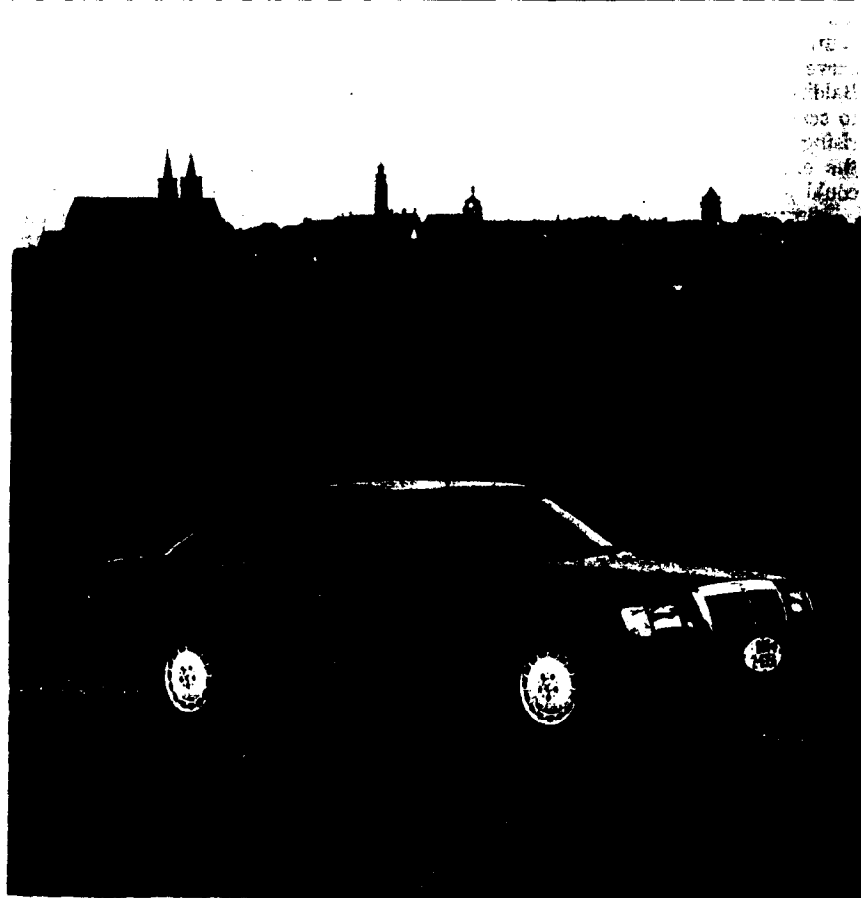
Breard posits that the proposed rules might even create the ironic situation in

which "you have a unit that was closed out properly" several years ago as a nonhazardous landfill, but with the new rules "is now brought into the whole regulatory scheme." That would mean, he points out, that the owner or operator of the facility would have to apply to EPA for a RCRA closure permit and arrange to provide millions of dollars in financial assurances that the facility will be closed properly.

Corson says that EPA will take all of these concerns into consideration before promulgating the final rule toward the end of the year. Those who wish to submit written comments to the agency on the proposal must do so no later than Aug. 12. EPA also plans to hold a public hearing on the regulatory package in Washington, D. C., on July 14.

The agency, Corson emphasizes, does not intend to stop at 38 compounds. "If I were to guess," he says, "someday it may get to a number like 200" characteristic compounds. He adds, "We'd also like to come up with a reasonable approach to defining toxicity." □

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