

THE TOXICITY CHARACTERISTIC (TC)
AND ITS IMPACT ON PVC

VISTA

Background

The Resource Conservation and Recovery Act (RCRA) defines procedures to determine whether a waste is hazardous. If it is hazardous RCRA mandates rigorous handling and disposal procedures that are considerably more expensive than for non-hazardous waste. Wastes are hazardous if they are specifically listed in the RCRA regulations or if they fail one of four tests; corrosivity, reactivity, ignitability or EP (Extraction Procedure) Toxicity. EP Toxicity is the test of most interest for PVC. In this test waste PVC is extracted for 24 hours with an aqueous solution. The solution is then analyzed for any of 8 metals or 6 pesticides. If either of these 14 compounds are in the leachate solution above regulatory levels (e.g. 5 ppm lead), the waste is considered hazardous.

In June 1986, EPA proposed to change the leaching procedure and to add 38 organic chemicals to the regulatory list. The new test procedure is the Toxicity Characteristic Leaching Procedure (TCLP). It calls for an aqueous extraction of waste in a zero head space device that minimizes volatilization of organics.

EPA is proposing to replace the EP Toxicity with the TC (Toxicity Characteristic). When this change is finalized (projected to be early 1989), wastes will need to be extracted using the TCLP and the extract compared to the regulatory levels on a list of compounds consisting of 8 metals, 6 pesticides, and 38 organics. One of those organics is vinyl chloride; the June 1986 proposed regulatory level for VCM is 50 ppb. That is, if the leachate generated using the TCLP on a sample of waste PVC contains more than 50 ppb VCM, the waste PVC is hazardous.

Recent Developments

On May 19, 1988, EPA proposed to change their method of determining regulatory levels. Under this proposal, the regulatory level for VCM could be increased from 50 ppb to between 200 and 1000 ppb (1ppm). We won't know what the outcome of this proposal will be until late in 1988.

Who does this apply to?

Anybody except small quantity generators that produce more than 100 kg (220 lbs.) of waste a month are subject to RCRA regulations.

Generators of waste have an obligation to assure waste is properly characterized and handled no matter what their business. Until EPA proposed adding VCM to the regulatory list, this was not a problem for PVC producers or users.

RCRA does not obligate generators to test all waste. In many cases, it is reasonable to assume a waste is hazardous or non-hazardous based on general knowledge of what's in the waste. With the new Toxicity Characteristic it will be more difficult to subjectively determine the regulatory status of a waste. The problem is, improper disposal of hazardous waste is illegal.

Timing

The final Toxicity Characteristic regulation is due out in early 1989. EPA is likely to give everyone 6 months to become aware of the new regulation before it becomes effective in late 1989.