Advice & Counsel

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Questions from Platers

Dear Advice and Counsel,
Your article on the problems associated with the cyanide-amenable-to-chlorination procedure struck a chord with us, because we are going through a similar disagreement with our local POTW. Is there any quick test or "gadget" that could be used to determine if the treated waste will yield high ATC readings?
Signed, Know the Feeling

Dear Know,

Standard Methods for the Examination of Water and Wastewater (19th edition) describes a "spot" test that has produced mixed results. The method is 4500-CN K. What follows is a brief summary, incorporating some additional steps that we have found useful: (Note: Follow all chemical safety procedures specified in MSDS sheets for any chemical compounds mentioned. Do not handle the chemicals mentioned unless you have had safety/chemistry training.)

1. Test the pH of a 100 mL sample.
2. If the pH is above 10, lower the pH below 10 with sodium bicarbonate (baking soda).
3. Filter the test sample using a tight grade of filter paper to remove all visible solids.
4. Using approximately 25 mL of the test sample, add 250 mg of sodium carbonate and mix until all is dissolved.
5. Add one drop of phenolphthalein indicator, and then add 10% hydrochloric acid until the pink color just disappears. Place two or three drops of the neutralized sample into a white porcelain dish, and also place the same number of drops of plain water into a second dish.
6. Add a pinch of chloramine-T powder to each dish and swirl until it is dissolved.
7. Add one drop of pyridine-barbituric acid reagent (15 g barbituric acid plus 75 ml pyridine, plus 15 ml concentrated hydrochloric acid diluted to 250 mL final volume).

If amenable cyanide is present in the sample, a pink coloration will be visible. Use the second dish for comparison purposes. An alternate to steps 5 and 6 is to use pre-purchased powders used in cyanide test kits for total cyanide monitoring. These minimize the hazards associated with handling the chemicals mentioned in steps 5 and 6. The spot test can detect as little as 0.05 ppm of cyanide-ATC. The spot test does not work well on samples heavily laden with thiocyanates.

Dear Advice and Counsel,
I recently heard what I hope is a false rumor: EPA intends to publicize the environmental "report card" of metal finishers on the Internet. Does this have any truth in it?
Signed, Wanted in Cyberspace

Dear Wanted,

EPA recently sent a pre-proposal document for phase 3 of its revisions to the Emergency Planning and Community Right-to-Know Act (EPCRA), that incorporate some new concepts that warrant concern on the part of the metal finishing industry. One idea is to require materials accounting (MA). This would require a metal finisher to track a Toxic Release Inventory (TRI) listed chemical compound through the facility and account for it in each operation. The accounting data would become public property. Companies that could show detailed accounting and a good record of utilization of the chemicals would be given high marks, while companies that lost a lot of chemical or generated a lot of a listed chemical may be given low marks. The "score" of each company would also be made public, and may be listed on the Internet.

A similar program is already underway in Massachusetts, where industry is required to develop two- and five-year toxic use reduction plans under the Toxic Use Reduction Act (TURA). TURA requires industry to keep daily use records on certain listed substances.

"Scoring" companies on pollution prevention is also being investigated in Indiana.

Keep in mind that this is a pre-proposal, meaning that EPA simply is trying the idea out for a response from industry in an attempt to identify problems that might be addressed before the regulation is actually proposed.

The EPA contact for comments on the concept of MA is Matt Gillen (Phone: 202/260-1801; e-mail: gillenmatthew@epamail.epa.gov).

Dear Advice and Counsel,
My company commented on the metal products and machinery regulations when they were proposed in 1995. We haven't heard anything since. What's going on?
Signed, MP&M Mary

Dear Mary,

What's happening is EPA has proposed to withdraw the Phase I proposal in response to strong comments from industry and local regulators pointing out that the proposed regulations were seriously flawed. The agency recently published a statement in the Federal Register indicating that they will now combine Phase I and Phase II, then re-propose a new set of discharge standards for the entire category around the year 2000, with a finalization target of 2002. Assuming the final regulations have a three-year compliance schedule, the final compliance date would be sometime in the year 2005. In the meantime, EPA is collecting more data by sending out questionnaires and sampling selected sites. *P&SF*