# **Highlights of AESF Week's Health & Safety Forum**

New to the 17th AESF/EPA Conference was an open panel discussion, headed by industry experts, on health and safety issues. The highlights of the Forum—questions, answers and comments—have been edited for publication.

What do you have to report •on the chromium issue? They're suggesting lowering the chromium [limit] to 0.5 µg/m<sup>3</sup>.

We should look at the MACT • or chromium standard that goes into effect January 25, 1997 as an intermediate standard. What they are looking at is six or seven years down the road, a probational requirement for one-in-a-million cancer-causing probability, so this is very debatable. California and Michigan have already adopted the limits in some ways, but other states are giving concentration numbers of 0.01, 0.02, 0.05 or whatever. It is a very difficult issue. As an employee, if you notice a problem, you can call OSHA and be a whistleblower, so to speak, without giving your employer an opportunity to address and correct the problem. According to a new bill that is in Congress, an employee would be required to bring that issue to the employer first, and that is something different and encouraging. Second, OSHA is asked to review its citation and fines policy-so it would be more cooperative, depending on the nature of the citation, anything from 30 to 90 days or more to fix the problem. OSHA is going through a major overhaul, because of funding and the Common Sense [Initiative].

### Comment from another panelist:

Everybody's concern is focused now on the chromium standard. We've all been through the cadmium standard (and that's being revised now, too). Don't lose sight of the fact that, as soon as OSHA gets through with chromium, nickel's their next target.

As users and processors of these materials, there are two items we must focus on at all times-one is the OSHA side, which is the exposure potential; the other is the EPA, which concerns emissions. On the OSHA side, an option is to automate your equipment to minimize personnel exposure in critical areas.

Would you address what the •medical surveillance requirements would be if we see the chromium come down to really low levels, as the cadmium and some of these other metals have done?

With regard to lead, for • instance, a lot of that is based on the air concentration that you would monitor, and from that you build on your medical surveillance program. A lot of that would start with a baseline blood level and then some periodic retesting.

#### What kind of permit is required •for pit or tank hazardous storage on-site?

If you were in California, you • would probably require an underground storage tank permit, because many jurisdictions consider those kinds of things as underground storage tanks. They aren't, but they're stretching the law for that, so you have to be careful.

Comment from another panelist: It's really important that you never want to refer to it as a "pit." It should be referred to as a "process tank," and there are different standards for process tanks and pits. You might be getting into the area of a confined space. Only management can determine if those are confined spaces, then you would have to do your appropriate training.

#### Comment from another panelist:

You have to be careful with subsurface containment areas open to the

atmosphere, such as your so-called pits, or sumps. If they are indeed handling wet chemistry as a routine, as opposed to being designed solely for spill containment-for the free flow of chemicals, then the probability in many jurisdictions is that these will be considered underground

### Thanks to Participants



Martha Martin, CEF, of Delta Chemicals & Equipment, Indianapolis, IN served as the moderator of this Forum. Panelists who joined her in

fielding questions from the audience were:

- Robert Lee, CEF, Rogers Corp., Rogers, CT
- Philip Platcow, C.I.H., Sedgwick James of New England, Boston, MA
- Dr. Paul Piplani, CEF, TTX Environmental, Sturgeon Bay, WI
- Vicki Sherwood, DuPont Electronics, Research Triangle Park, NC



Bob Lee, CEF

Philip Platcow



Dr. Paul Piplani

storage tanks. As for confined space, requirements at the federal and local level vary. A confined space can be defined as a work area in which there is limited access, such as only one way in or out, with, for example, a rigid grating or cover over it.

#### Comment from another panelist:

For those areas that really are confined spaces, OSHA requires you to have a written program that addresses all of the procedures, the steps to be followed upon entering, the types of work to be done that might compromise the quality of the air, such as with welding or creating a fire hazard, particularly with flammable solvents present. You must also have some sort of medical emergency response available to remove anyone from the confined space. There's a requirement for supervision during entry into the confined space, as well as for air quality monitoring.

#### Comment from another panelist:

There's another thing about working in a confined space, which is use of hazardous energy, such as with electrical equipment. You must have a lock-out, tag-out system.

#### Comment from another panelist:

You also must conduct training, put up signs in the area, and tell your employees about it. Some firms have adopted a policy of not permitting employees to enter a confined space. They employ outside contractors if they have to do tank cleaning, to get away from some of the training requirements and the need for an emergency response team standing by.

#### Comment from another panelist:

Just because you satisfy the requirements of one of these two agencies, that doesn't mean that you meet the requirements of the other, particularly as they ratchet down the limits for exposure or the discharge limits.

# **Q**•coming up in "Enviroscope"?

A Topics include: Handling Outside Contractors— How outside contractors can create as much liablity for you as your in-house employees; Conducting Hazard Assessments—that are required by PPE standards, as well as just identifying hazards in the workplace and coming up with feasible alternatives; Hearing Protection and Conservation; Medical Monitoring; Respiratory Protection; Foot and Hand Protection Devices; Heat Stress; Incorporation of Safety & Health in Facility Design and Renovation.

#### **Q**.Industrial hygiene—when an employee complains of chemical exposure symptoms, what kinds of screening procedures can we use?

Normally, the approach is to ask • the employer for Material Safety Data Sheets for the chemicals the employee might be exposed to in his immediate work area. In nine times out of ten, I've discovered the issue there. If you're running a plating shop that has the typical acids and an employee is complaining of chest irritation, or sore throat, or something like that, I don't think that your answer is all that far away. On the other hand, if he comes up with symptoms such as headache, nausea or things that are more associated with solvent-based chemicals, and you don't have any of those in his or her immediate work area, that's something else we might look after. The next question is: What does the employee do after he or she leaves your site? A second job in a solvent factory down the road? Perhaps they work for an office cleaning shop in the evenings, where they may be getting chemical exposure.

If the chemicals being used are all sold by the same people, they could be approached for information on possible interactions. If heat is involved, there's a portion of the MSDS that covers thermal decomposition products or possible products of instability.

#### *Comment from another panelist:* For the example you mentioned, one of the by-products of the reaction is sulfur dioxide, which is an irritant to lung systems. Another area is the ventilation system of a plating shop. You can have microbial problems.

*Comment from another panelist:* Sensitization is another thing that happens to people all the time. They might be perfectly fine working around cleaners for years, then become sensitized and develop all these unyielding symptoms. Personally, I've been sensitized to solvents. For years I was around them, then one day, I became very ill. In such a case, there's really nothing to do except provide appropriate PPE for the worker, or a move to another area.

#### Comment from another panelist:

Make sure your exhaust really exhausts and isn't picked up and recirculated into another area. If you find that you need to give someone a respirator or hearing protection, keep in mind that it's not enough just to give them the respirator. If it's a dust mask or whatever, you have to go through a whole respiratory protection program, which includes medical surveillance and training.

#### Comment from another panelist:

There's another part to that. OSHA says you're allowed to use PPE only after engineering controls have been thoroughly evaluated.

## What about health problems or lated to gold plating?

A Because most gold plating is done with potassium gold cyanide, you must avoid acidifying the solution. A pH of 1 or 2 will cause evolution of toxic hydrogen cyanide gas just from mixing with the vapors from nearby tanks.

If you get your pH below 2, you're running a real risk. If you get it below 1, evacuate.

*Comment from another panelist:* Actually, if you do have those baths, you are required to have the amyl nitrite (a controlled substance) antidote available.

#### Comment from another panelist:

Because there could be a power failure over a weekend, someone should be assigned to check for the presence of gas on Monday morning. In our facility, when the first person shows up in the morning, there's a panel outside the plating area that he turns on first that turns on the lights and the exhaust system, which runs before anybody actually gets into the plating area. *P&sF*