



MODINE

ShopTalk

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TECHTOPICS

Environment, Hazardous Waste Draw Much Deserved Attention

Modine is pleased to feature another guest column by Larry LePrevost, national sales manager for the Johnson Manufacturing Company.



Larry LePrevost

The appearance of guest columnists in ShopTalk does not necessarily imply Modine's endorsement of their observations or opinions. Questions relative to subject matter can be directed to Larry at Johnson Manufacturing Company, 114 Lost Grove Road, Princeton, Iowa 52768. Or, call (319) 289-5123.

This month's topic, "Hazardous Waste and the Environment", is not glamorous or exciting, but it deserves our attention. Johnson Manufacturing has always felt a strong sense of responsibility to inform its customers of the proper ways to use (and conserve) the products we make. Yet, due to the wide-ranging national, state and local regulations covering environmental matters, we've never felt comfortable making specific recommendations over the phone. It's tough to know which regulations we're dealing with, and whether all the pertinent facts are in. That's where you come in.

Shop owners and mechanics must also feel a sense of responsibility for the safety of co-workers, for the health of their community, for the well-being of animal life and the condition of our environment. Some radiator shops have admirably adopted a pro-active stance and taken steps necessary to come into compliance with all, or most hazardous waste regulations. However, other shops are lagging in their efforts, and some have made little effort at all.

It's true, the regulatory arena can seem almost overwhelming with a checkerboard of agencies such as EPA, DOT, OSHA, CDC, AQMD, sanitary districts Haz-Mat teams, fire departments, and so on. It gets even more confusing when you realize that the RCRA (Resource Conservation & Recovery Act), which regulates solid wastes, and many other acts covering clean air, toxic chemicals, drinking water, storm sewers, etc., were signed into law under the auspices of the EPA.

No matter how confusing the maze of regulations, it is still the responsibility of every adult to protect and preserve our environment, and to conserve our precious natural resources for the generations to follow. According to one recent report, the world has only a 37-year supply of tin left. What if the lobbyists are successful, and industries are forced to switch to lead-free solder? Since most lead-free solders contain more than twice the amount of tin

(approximately 95% tin vs. 40% tin in traditional solder), would that reduce the world's supply of tin to 30 years, or even less?

Helpful Booklets

Tin is not considered "hazardous", so where do you find out what is hazardous according to the RCRA? You also need to determine how hazardous your waste actually is and how much your shop generates and stores each month (on average), and each year. To help with these matters, EPA publishes several booklets, including "Does Your Business Produce Hazardous Waste?" (item no. EPA/530-SW-90-027) and "Understanding the Small Quantity Generator Hazardous Waste Rules" (item no. EPA/530-SW-86-019). You may obtain copies of these publications by calling (800) 424-9346. Use a touch-tone phone and be patient. The person who answered my call was very friendly and helpful.

Lead, Zinc Top List

Leading the list of heavy metals found in hazardous wastes generated by radiator shops is lead. The federal MCL (maximum contaminant level) for lead in drinking water is .05mm/L. However, some states and municipalities have adopted even tighter standards. Based on the CDC's (Center for Disease Control) tests,

(continued on page 2)

Shops Face Multiple Challenges

(continued from page 1)

blood-lead levels as low as .10mg/DL place many children at serious risk.

Compared to lead, zinc is a relatively safe element. In fact, its presence in our bodies is necessary for good health; some health-conscious folks pay good money for vitamins that contain zinc. Zinc chloride is actually present in a leading mouthwash. Yet, as safe as it might seem to be, zinc (in the form of zinc chloride) is toxic to fish.

Excess soldering flux and residues that are carried into test tanks, flush booths or onto the shop floor are just washed into the sewer by many shops. Because zinc chloride is its predominant ingredient, soldering flux should be handled in a responsible manner.

"...some health-conscious folks pay good money for vitamins that contain zinc."

A few suggestions: (1) Use smaller brushes to carry less flux to the workpiece; (2) Apply flux sparingly, only to the specific area you are soldering; (3) Use spray bottles on headers to cut flux consumption; (4) Concentrated fluxes can be cut (diluted) with water to save money and reduce the level of fluxing ingredients that may find their way into the sewer; (5) Use water instead of flux for quenching the job after soldering.

(Quick aside: Did you know the average car has over 40 pounds of zinc in it? Or, that a penny is 98% zinc with just a light copper coating? So much for throwing pennies into the fountain!)

There is almost as much talk these days about zinc-free fluxes as there is about lead-free solders. Are organic fluxes that contain no zinc chloride really safer? In the world of fluxes, "organic" describes those fluxes that

burn off or vaporize during the soldering process, leaving the workpiece relatively free of corrosive residues. These fluxes, however, contain organic acids and amine complexes that can create other problems for workers, for treatment facilities and for the environment. Regardless of the flux you use, weigh all the implications and please use it wisely.

Proper Handling

Spent chemicals such as antifreeze, boilout tank solutions, test tank water, oils and solvents, along with the dissolved paint, sludge, sump mud, and used solder that shops generate, must be handled correctly. Doing the job right involves the following activities: (1) Identifying your waste and generator status; (2) Obtaining a generator I.D. number; (3) Reporting annually; (4) Performing preventive maintenance; (5) Properly accumulating hazardous waste; (6) Planning for emergencies; (7) Using proper containers and managing their storage correctly; (8) Arranging for proper transportation and disposal; (9) Manifesting (properly documenting) all shipments of hazardous waste, and (10) Keeping records of all hazardous waste activities.

As noted earlier, the EPA can help provide guidance on these matters, but shops must also be aware of state and local requirements.

Turning The Tide

On a world-wide basis, we see that today's environmental problems are enormous. What can we possibly do to turn the tide? There are no easy answers. But, in wrapping up this Tech Topics segment, I would offer three suggestions to move us in the right direction.

Are organic fluxes that contain no zinc chloride really safer?

First, we can all start by conserving what we use now. Cutting unnecessary procedures, sloppy practices and wasteful habits can yield significant savings. Reducing the use of chemicals and/or other disposable materials not only saves money up-front, but also will reduce the expense of treating, recycling or disposing of excess or spent materials later. Frugality starts with buying the best products (in terms of value, not the lowest cost) and making them last as long as possible through proper dilution, maintenance and application.

"...learn all that is needed to bring your business into compliance with all hazardous waste regulations."

Second (or perhaps this should be first), find out where you stand. As discussed earlier, learn all that is needed to bring your business into compliance with all hazardous waste regulations. Work with your local agencies—this is where the actions you take have their greatest effect, in your neighborhood and community.

Third (consider this a commercial announcement), join NARSA, the National Automobile Radiator Service Association. As a participant, you will receive information that might take a lifetime to accumulate by yourself. Plus—and this is a fact—NARSA shops generally produce higher volumes and show higher profits than non-member shops. One big reason is that NARSA members are able to get help with the hard stuff (regulations, etc.) from people who have already been through it, which leaves more time for the fun stuff (making a living). To join NARSA or to find out more, call (215) 541-4500...and tell 'em Johnson sent you.