

Hazardous materials

Toxic Mysteries: Working with Chemicals

Workers and owners of some small businesses may not be fully aware of the hazards of handling toxics on the job

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Popular mythology holds that photographer Edward Weston lived most of his life with chemical-blackened hands and the then-unknown side effects of years spent with darkroom toxics. Since the days of Weston, popular culture has expanded the myth beyond the darkroom to other kinds of workplaces: Blackened hands are nothing to worry about; anything beyond the hands is open to interpretation.

In the realm of health and environmental safety, proper use and handling of common chemicals is about as open to interpretation as the effects are.

Large agencies dealing in toxic solvents, lab chemicals and photographic/printing materials undergo strict EPA and Department of Health Services scrutiny. But independent

users and small businesses, especially those in the print and arts-related industries, generally do not. Subject to the same rules and regulations, many of these users may be falling through the cracks of toxics regulation.

Santa Clara-based Safety Specialists—one of a few California companies licensed to pick up, transport and dispose of hazardous materials—works with only a few Santa Cruz organizations. Most are linked to the UCSC science labs or the Scotts Valley computer industry.

"We work with very few small-to medium-sized companies," says Safety Specialists program manager Warren Nelson. "Small quantity [hazardous waste] generators are in a situation that makes it difficult to provide them with economical service. It's



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hard to get toxics information out to small businesses . . . many don't know even that they're generating hazardous wastes, and it's hard to schedule pickup; there aren't many companies that deal with them."

Pickup companies within easy

driving distance of Santa Cruz are in no way abundant. In fact, officials at the fire department and the County Environmental Health Department estimate there are only two or three operating in the area.

County Environmental Health haz-

ardous materials program manager Ilse Kolbos attributes this to the local concentration of small businesses: "Right now it's unknown what toxic wastes are being generated in the area. But my feeling is that a number of small businesses—which is most businesses in the county—probably are not handling hazardous materials adequately."

Kolbos is currently appealing to businesses to file with the county if they use toxic substances, one step in a toxic waste management plan Environmental Health is devising under a new state hazardous materials law. "If all of these businesses were already doing things properly," she says, "we feel we'd have a lot more waste showing up in our [oversight] system."

From the county government perspective, small organizations working with fiberglass, automotive solvents and photographic chemicals are probably the greatest culprits. But from the perspective of many low-scale entrepreneurs in these industries, proper use and disposal of work-related chemicals is a mystery.

Hazardous materials must be disposed of in registered, Class A dumps; the nearest are in Kettleman Hills, outside of Fresno, and in Marina, near Seaside. The three dumps within

this county threaten to levy \$1,000 fines for unclaimed hazardous substances, substances including automotive oil and paint. Signs to this effect are prominently displayed and are probably effective in deterring ignorant violators. But dump workers suspect it would be relatively easy to smuggle in contraband.

City recycling accepts automotive oil, but will have nothing to do with art and industrial waste. Coupled with transport companies that bypass small business, the facts point to a lot of unaccounted-for waste—and a dilemma for anyone grappling with disposal. The missing toxics probably end up in the sewers and on into ground water, water processing plants and irrigation water.

Employees in the county's large photographic shops guess that chemical use in small-scale photography poses one of the greatest health and environmental risks. Individual users undergo no government scrutiny and commonly use chemicals that are packaged with only brief disposal information. Many non-photographic businesses also involve photographic typesetting and photography, and have similarly lax regulations enforce-

ers Shirley and Grover St. Clair pick up photo activators from approximately 15 local newspapers, typesetters and photography shops. But with over two pages of photo-related shops in the local yellow pages, and no listed metal recovery businesses, a significant amount of silver must fall through the cracks between the recovery companies and personal processors.

This is just one example of potential hazards to the environment. Potential user risk is also a volatile issue. Common black-and-white

chemicals are known to turn skin black and cause nausea if used without sufficient ventilation; but there's little documentation of bodily accumulation of toxics.

If misused, even safer chemicals can be hazardous. Color processing acids and alkalines are commonly used to neutralize each other before disposal. But the same process with developers containing sodium sulfite and acetic acid can produce a highly toxic sulfur dioxide gas; sepia toners can form hydrogen sulfide gas. Color cibachrome solutions, archival solutions that produce se-

lenium and silver nitrates yielded in typesetting and photography can be deadly if inhaled, drunk or in some cases touched.

Susan Shaw's book *Overexposure*—regarded among photographers as a bible of photographic safety—warns against activities common in many shops. Touching developers and coming into contact with instant process gels (like those on passport photos) are just two points she reiterates throughout.

The county's new Hazardous Waste Management Plan will be a landmark for the holes in toxics management

when completed. Small businesses will file lists of chemicals with the county and be informed as to their toxicity; the county will have a handle on all of the toxic materials being used; and the health department will consider installing disposal systems within the area for the waste currently being generated.

Kolbos thinks it's about time. "This plan is a great cost saver in the end... it saves the environment as a whole, it saves costs for businesses in disposal management," and it saves lives, she says. "But it just should have happened five or 10 years ago." •

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ment and unknowing staff people.

Large businesses are another story. Doug Medeley, chemicals manager at the Soquel branch of Bay Photo Lab, has in his office a stack of loose-leaf binders with detailed information about each chemical used at the lab. The largest photo processing chain in the county, Bay Photo is required under the federal "Employee Right to Know Act" to keep a running list of the chemicals, whether or not they're inert, at what point they boil, at what point they're flammable, where they should be stored, and so on. For the county, Medeley files a floor plan, a water network plan and a tome of substance safety information. Other notebooks represent clearance from the fire department and the sanitation department.

Bay Photo also employs a complicated electrolytic processor to remove silver from black-and-white fixers, a process that turns the chemical into bleach and yields salable chunks of unrefined silver. The county requires sufficient removal or dilution of silver-producing chemicals before they can be discharged into the sewers. Silver, like most metals, is potentially hazardous if it seeps into the groundwater or the water supply and is a health threat if ingested.

Monterey precious metal reclaim-