Correspondence

Comments on “Exposing Ourselves to Art”

My colleagues and I are pleased to comment on the recent Focus article on art materials published in Environmental Health Perspectives [105:284–289 (1997)]. We believe that it is important for creative individuals to be encouraged in their expression. The driving force behind an artist’s quest for new and innovative means to express his or her creativity should not be unnecessarily impeded. On the other hand, a proper understanding of the materials and their hazards when used in the creation of art is necessary. Since the proper expression of likely risks is vitally important, we are concerned that individual examples may have been presented in a manner that makes them appear sensational or of concern beyond the risks expected. In particular, we believe that formula review and supervision by a toxicologist is a sound means to prevent harm to the public. Such supervision and review should be more widely practiced for a greater variety of materials.

The toxic effects exhibited by improper or excessive exposure to art materials are as varied as the materials themselves. As toxicologists responsible for art materials labeling under the Labeling of Hazardous Art Materials Act (LHAMA), we know that certain toxic chemicals cause acute effects (immediate reaction after one exposure). These are easy to spot, and warnings about acute hazards are defined by the Federal Hazardous Substances Act (FHSA), among others. Other effects, more subtle or less timely, can be delayed, and these chronic reactions that occur after multiple periods of use constitute the area of chronic health concern mandated by LHAMA. Perhaps justifiably, the author cites Monona Rossol and Michael McCann in their expressions of concern for the chronic hazards in the artistic community. Both are known in the art hazard field and have been vocal advocates of art safety for many years.

As practicing toxicologists, we understand that some effects are reversible, while others may not be unless caught in time. Some materials provide intrinsic warnings, such as odor, indicating excessive concentration while others do not. This description could continue, but the audience of Environmental Health Perspectives is well versed in the toxicologist’s litany, namely, “the dose makes the poison”. However, artists are often solitary workers and, as individualists, they have been known to ignore printed warnings where their art is concerned. This characterization is clear from the article, but we judge it is not as widespread as the article implies.

Many artists acknowledge that daily exposure to some materials produce minor symptoms at low levels of exposure (headache, eye irritation, etc.), while others do not. Carcinogens and reproductive toxins, although not acutely toxic, may manifest their effects much later when the damage has been done. Because the dose makes the poison, by inference, we know that the exposure forms the basis for the dose. Both rate and route are critical. Thus, if the words on a label prevent an exposure from happening, the harm has been mitigated.

If the right dose differentiates a poison from a remedy, can the same hold true for a label? What should the artist or consumer know, how should he or she be informed, and what role will the form of communication have in creative expression? Are more regulations needed? Except to extend coverage to more products, we believe that greater formality and the larger involvement of the agency, whether the Consumer Product Safety Commission (CPSC) or the EPA is not warranted.

Under current regulations, namely LHAMA, the toxicologist (whether as a consultant or company employee) has been delegated the task of premarket approval, a role not unlike the FDA where drugs and medical devices must be assessed for safety and efficacy. Based on the information available, the toxicologist provides or confirms a label consistent with that knowledge. Where uncertainty exists, we often call on structure–activity relationship (SAR) and analogy for help. In this regard, the article references di(2-ethylhexyl) phthalate (DEHP). While acutely nontoxic, DEHP, based on the results of chronic animal bioassays, is a known animal cancer risk. Based on an unstated similarity to DEHP, an alternative material identified as “untested complex glycol ethers” is suggested to present similar risks to DEHP. The impression is given that the untested replacement is labeled nontoxic due to a lack of data. It is also possible that the nontoxic label is based on the toxicologist’s professional judgment and an understanding of its mechanism of action and not on a data gap. The subject and utility of SAR analysis and the risk posed by DEHP are subjects of considerable interest. It is our view that hazard posed to society by DEHP is small and the choice of an alternative may be forced more by a concern for market share and public relations image than by a concern for the avoided cancer hazard from this widely utilized polyvinyl chloride plasticizer. It is our view that artists should have the widest choice of materials. Such freedom of choice offers an outlet in the creative process and fosters the freedom of expression the artist seeks.

The Focus article gives examples of persons who have developed sensitivities to certain materials. In our view, it is unwise to treat any art material, toxic or not, with a cavalier attitude. Proper consideration must be given to the physical, chemical, and biological properties of all materials. This is clearly the toxicologist’s task under LHAMA. A number of products, including consumer products and toys, are currently being reviewed by toxicologists with both FHSA and LHAMA guidelines in mind. In contrast to the impression created by the article, we have found that foreign manufacturers must conform to LHAMA or risk their shipments being held by U.S. Customs. More than once, we have responded to an importer in search of clearance for goods. Thus, the burden is placed on the U.S. distributor or importer to assure compliance. In this way, while somewhat after the fact, improperly labeled goods may be embargoed and kept out of the U.S. marketplace.

We believe in appropriate labeling regarding conditions for safe use and reasonable disclosure of likely adverse health effects. We wish to avoid description of events that are unlikely. In our view, most consumer products, when used as intended, pose little to no increased risk of adverse health effects for the user. In fact, based on our experience, many Poison Control Centers call concern themselves with nontoxic exposures. Still, such public concerns deserve prompt and timely responses in order to allay the fears created by overly cautious labeling.

It is imperative that knowledge regarding the potential adverse effects be our ally and not our enemy. Use of potentially hazardous materials by artists under safe environmental/workplace conditions will enhance productivity and creativity. This has been demonstrated in the industrial workplace environment where materials are regulated by OSHA and precautionary measures are taken to ensure the safety of the workers. Regrettably, the article is correct when it describes some artists as solitary and unable to afford the required safety equipment.

In the community of toxicologists who actively certify art materials under ASTM D4236 and LHAMA, we believe that those materials certified under the CPSC guidelines for labeling are appropriate for their intended use and disclose the most likely potential adverse health effects. If the user (artist) adheres to the information provided, we judge that there is no increased risk of adverse health effects to the artist. Finally, when art materials are labeled appropriately, it becomes the responsibility of the con-
consumers/users to comply with the supplied information.

Safety assessment and risk communication is a dynamic process. Our knowledge base is constantly increasing, and society's interpretation of what constitutes safety is an evolving process. As newer technology becomes available to better qualify and quantify the potential adverse effects of materials, safe and acceptable conditions for use become available and affordable for artists, whether their studios are located at homes, schools, or workplaces. Further, as toxicologists who certify compliance with LHAMA, we must reassess and recertify each unchanged art material every five years. Any changes that may have occurred in the product formulation or the state of knowledge since the initial certification are revisited. In this way, new information and concerns for safety are added to our knowledge base and to the label.

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Safe Use of Art Materials: Who Is Responsible?

I believe there are serious problems with fairness and incomplete reporting in the Focus article "Exposing Ourselves to Art," by Scott Fields [EHP 105:284–289 (1997)].

I have three points to make. First, in this article, Fields did not adequately explore the artist's or the art faculty's responsibility for learning to use materials properly, let alone safely. His and his sources' implications are clear: there should be more regulation, and the manufacturers should be held accountable, even liable, for labeling. In fact, the American Society for Testing and Materials' Standard Practice for Labeling Art Materials for Chronic Health Hazards (ASTM D 4236) is codified as part of the Labeling of Hazardous Art Materials Act of 1988 (LHAMA). That's plenty of regulation, but both Monona Rossol and Michael McCann would have us believe that it's not sufficient. Rossol is a member of ASTM Subcommittee D01.57, Artists' Paints and Related Materials, which wrote the standard; both she and McCann were present during discussions leading to its publication. Moreover, Rossol has had every opportunity to comment and vote on subsequent revisions of D 4236. D 4236 labeling is quite sufficient, it is continually updated (unlike any law), and its success as hazard communication rests entirely in the hands of the artist or other user, whose responsibility it is to read the labels.

My second point is that neither the Consumer Product Safety Commission (CPSC) nor the ASTM have the budget to publicize the law or the standard incorporated into it. One of the ASTM's mantras is "We only write standards," as I am continually reminded by the staff manager. The ASTM does not enforce standards. The CPSC is charged with enforcing LHAMA, but has few resources to do that, let alone publicize it. The news media, including publications such as EHP, can help in publicizing the good labeling practices promulgated by the ASTM—but only if they get the complete story through thorough reporting. Again, the user of art materials must be made aware that labels on their products carry good information and that if they choose to use materials that are not marketed as art materials, it is their responsibility to find out about safe use—and not blame someone else when an adverse health effect arises from willful ignorance.

Finally, Rossol and McCann place the blame for all this in the laps of the manufacturers of art materials or consulting toxicologists. In fact, manufacturers of art materials have been bending over backwards since 1981 to deal in a scientific, timely, and accurate manner with ASTM recommendations and medical advice, to say nothing of moral or ethical issues. Furthermore, the toxicologists and other scientists who have worked with the ASTM, including numerous state departments of public health, representatives of the EPA, and the Society of Toxicologists, have all acted in the most responsible manner possible. For Fields to suggest otherwise ("Manufacturers could be compelled to test products more extensively and label them more accurately") is, I think, simply unfair.

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Response: Labeling and LHAMA

I am surprised that Mark Gottsegen thinks that I should be satisfied with the art materials labeling law (LHAMA) because I have had "every opportunity to comment and vote on subsequent revisions of D 4236" and that "it [D 4236] is continually updated." He knows that no matter how we revise this standard, only the 1988 version is referenced in LHAMA. Subsequent versions have no affect on the law.

In addition, the only major revision of D 4236 that I remember was proposed a year or two after the law became effective. The manufacturers mistakenly thought they could weaken the law by removing the requirement to include their phone numbers on the label from the revised D 4236. Once it was clearly understood that the law would be unaffected by this change, the revision was easily voted down.

Gottsegen also argues that I should be satisfied with the labeling law because I was involved in its passage. He has my permission to be even more critical of me than that: I enthusiastically supported the law at that time. This was before I learned how many ways there were around, under, and through the law. And my support of the law in 1988 is proof of my good will, trust of manufacturers and toxicologists, and outright naivete at that time.

Since then I have learned. For instance:

- Products containing untested chemicals for which there is no chronic data can be labeled nontoxic even if the chemicals are closely related to known toxic or carcinogenic chemicals.
- Products containing highly toxic chemicals including lead and cadmium were labeled nontoxic if they did not leach in an ASTM acid test, despite the fact that there were no in vivo studies demonstrating that this test was valid. Only after a nursing home resident's blood showed high lead levels after she accidentally ingested one of these nontoxic ceramic glazes did some certifying toxicologists reject this test for ceramic products.
- Another version of this unvalidated acid test for art paints (D 5517) was rammed through in 1995. I did assist in getting wording into the standard indicating that it was not a substitute for animal testing. But I am no longer naive enough to assume that this acid test is not being used at this moment somewhere to justify labeling language on paints.

As Gottsegen knows, I have many other complaints about labeling, but not many complaints about Gottsegen himself. I appreciate how hard it is to chair that ASTM committee, especially with me on it.

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Response: Education and Responsibility

I would like to correct several misimpressions in Mark Gottsegen's letter. Gottsegen