

Using Safer Chemicals in Products Supports Preventive Health Care



At Kaiser Permanente we understand that healthy communities and a healthy environment are critical to the health and wellness of every person. Since our founding in 1945 we have worked to curb our impact on the environment by using safer chemicals, building greener hospitals, reducing waste, purchasing locally grown food and using sustainable energy.

Our commitment to preventive health care leads us to be concerned with the use of toxic chemicals in products. We strive to purchase products that do not contain persistent, bioaccumulative and toxic chemicals such as mercury

or polybrominated diphenyl ethers (PBDEs), carcinogens like formaldehyde or reproductive toxicants like di-2-ethylhexyl phthalate (DEHP). To advance an economy where the production and use of chemicals are not harmful for humans as well as for our environment, Kaiser Permanente adopted the following five guiding principles for managing chemicals in products:

1. Understand product chemistry. To increase the transparency of the chemical constituents in products we buy, we request product chemistry data from suppliers.

2. Assess and avoid hazards. We have and will continue to encourage suppliers to use chemicals with inherently low hazard potential, eliminate chemicals of high concern, minimize exposure when hazards cannot be prevented and redesign products and processes to avoid the use and/or generation of hazardous chemicals.
3. Commit to continuous improvement. We have created a framework for the review of product and process chemistry, and are promoting the use of chemicals, processes and products with inherently lower hazard potential.
4. Support industry standards that, in Kaiser Permanente's opinion, eliminate or reduce known hazards and promote a greener economy, including support for green chemistry research and education.

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Kaiser Permanente is the nation's largest integrated health care delivery program. We:

- Are a non-profit organization with \$40 billion in annual revenues.
- Spend \$14 billion annually on products and services.
- Employ 167,000 staff and 14,600 physicians.
- Serve 8.6 million members in nine states—California, Colorado, Georgia, Hawaii, Maryland, Ohio, Oregon, Virginia and Washington—and the District of Columbia.
- Operate 35 hospital-based medical centers and 431 medical office buildings.

5. Inform public policies and be part of the public dialogue that advances the implementation of the above principles.

Identifying Chemicals of High Concern in Products

At Kaiser Permanente, we want to know if a product contains chemicals of high concern to human or environmental health. In the absence of a well-established list of chemicals of high concern, our environmentally preferable purchasing policy specifies that the following chemicals should be avoided in the products we purchase:

- persistent, bioaccumulative and toxic chemicals (PBTs);
- carcinogens and reproductive toxicants listed by the State of California under Proposition 65—the Safe Drinking Water and Toxic Enforcement Act of 1986;
- halogenated flame retardants; and
- phthalates (including DEHP), polyvinyl chloride (PVC), bisphenol A, latex and mercury.

Our procurement and supply staff now require medical device suppliers to disclose—when submitting a proposal for a national contract—whether their product contains some of the chemicals listed above. The disclosure is unique because it requires information on a product-specific basis. We also ask for information on the availability of safer alternatives. The process requires comprehensive vendor education and aggressive demands for safety and ingredient information. Many of the ingredients on the supplier disclosure document are not listed on the Occupational Safety and Health Administration's (OSHA's) required Material Safety Data Sheets due to: trade secrets, the exemption of small concentrations from reporting—even though the chemicals may cause harm in low doses—and failure to provide the latest toxicity data on a chemical.

Selecting Safer Alternatives

Once we identify chemicals of high concern in products, we aggressively search the market for safer alternatives. Often

we are able to either find a safer alternative or catalyze the development of a new, safer alternative.

Exam gloves proved to be one of our successes. In the desire to move away from powdered latex and PVC (or vinyl) exam and surgical gloves, we decided to purchase gloves made of nitrile.

Latex gloves present a problem for patients and staff with allergic reactions, while vinyl gloves create the byproduct of dioxin pollution in both manufacturing and disposal processes. Kaiser Permanente's decision to buy an alternative to vinyl gloves affected the entire medical glove industry because we use more than 50 million gloves each year. The change increased the national supply of nitrile gloves and lowered the cost of nitrile gloves for all glove purchasers.

Kaiser Permanente was the first health system in the United States to contract for patient-controlled analgesia (PCA) sets that are totally PVC- and DEHP-free. This is significant because we purchase the equivalent of 18 miles of tubing annually. While the cost of this change reflected a savings over our prior contract, it would have been even less expensive to buy tubing that was made from PVC and DEHP.

In 2004, Kaiser Permanente was instrumental in driving the creation of a vinyl-free carpet that is completely recyclable and made from post-consumer recycled content that meets demanding health care performance specifications. We now contract exclusively with the vendor that created the product and have installed approximately 10 million square feet of this carpet in our facilities.

To address chemicals found in fabrics, Kaiser Permanente created a Sustainable Fabric Alliance Program to embed environmental considerations into choosing fabric and fabric vendors. With a reduction of vendors in the Alliance program, the vendors obtain increased sales volumes, allowing us to use sustainable fabrics at a savings. The considerable time and resources committed to this work was justified because there was no other way for us to ensure that our fabrics were free of chemicals of concern.

Are the Alternatives Safer? It's Often Hard to Know

Without comprehensive hazard and exposure data on the alternatives, it is often difficult to know whether the alternative chemical ingredients are





indeed safer. Starting in 1997, Kaiser Permanente spent ten years virtually eliminating mercury, a neurotoxin, from its operations. We purged almost 1,400 pounds of mercury from our facilities. This included creating a market demand for non-mercury blood pressure devices and esophageal dilators that meet our performance needs. The mercury in esophageal dilators was replaced with tungsten. Now there is emerging evidence that tungsten is related to leukemia in towns near tungsten mining operations. This is an example of efforts to replace a known hazardous material resulting in the possible use of an unknown potentially hazardous material.

Kaiser Permanente also supports identifying safer chemicals through research. Our Division of Research conducted the first study to look at the effect of high levels of workplace exposure to bisphenol-A, or BPA, on the male reproductive system in humans. This recent study, which appeared in the journal *Human Reproduction*, adds to the body of evidence questioning the safety of BPA, a chemical used in the production of polycarbonate plastics and epoxy resins found in baby bottles, plastic con-

“Policy mechanisms are needed to support downstream users in procuring the safest products and materials for our needs.”

Kathy Gerwig, Vice President,
Workplace Safety and Environmental
Stewardship Officer

tainers, the lining of cans used for food and beverages and in dental sealants. Kaiser Permanente purchases baby bottles that are free of BPA and we continue to push for safer alternatives to other products that contain BPA.

Safer Chemicals Policies Can Reduce Our Costs

All of these projects—identifying chemicals of high concern in products and selecting safer alternatives that meet our performance criteria at an affordable cost—require significant resources. It is very time consuming to develop a list of chemicals of high concern, determine which products they are in, identify

alternatives and evaluate their safety, performance and cost.

For example, when we tested alternatives to PVC flooring, we had to invent our own testing protocol and use in-house certified industrial hygienists to perform tests to understand the health impacts of the alternatives. That degree of investment is simply not feasible for most products and materials we buy, nor is it possible for smaller organizations that do not have the resources and organizational skills that Kaiser Permanente has developed over decades.

We’ve taken a cautious approach to materials, meaning that where there is credible evidence that chemicals in materials may result in environmental or public health harm, we should strive to replace those materials with safer alternatives. Despite Kaiser Permanente’s purchasing leverage, we experience limitations in achieving our goal of using products and materials that are environmentally sustainable. To meet our goal, we would benefit from public policy that requires manufacturers to ensure adequate safety testing of chemicals in their products and make that data available for review.