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**OVER 100 CHEMICALS RELEASED INTO THE AIR FROM PVC  
SHOWER CURTAINS SOLD AT MAJOR RETAIL OUTLETS,  
ACCORDING TO LATEST LABORATORY RESULTS**

*An urgent call is issued for Wal-Mart and other retailers to immediately phase out PVC shower curtains & for the Consumer Product Safety Commission to recall PVC shower curtains from store shelves*

**Falls Church, VA ...** Results from a two-phase study released today by the Center for Health, Environment & Justice, a non-profit organization dedicated to preventing environmental health harms caused by chemical threats, show that shower curtains made with polyvinyl chloride (PVC) plastic contain many harmful chemicals including volatile organic compounds (VOCs), phthalates and organotins; these PVC shower curtains are potentially toxic to the health of consumers. Vinyl shower curtains and shower curtain liners release chemicals into the home that are most easily identified by that “new shower curtain smell” and are routinely sold at major retail outlets.\* Results of this study show that PVC shower curtains can release toxic chemicals into the air that may lead to adverse health effects including respiratory irritation, central nervous system, liver and kidney damage, nausea, headaches and loss of coordination. The Work Group for Safe Markets is a co-sponsor of this report.

Across the nation many consumer and environmental health organizations join CHEJ and other experts in calling for safeguards to prevent harm from exposure to toxic PVC shower curtains. For a list of state events and/or to read the full report, Volatile Vinyl: The New Shower Curtain’s Chemical Smell – [www.chej.org/showercurtainreport](http://www.chej.org/showercurtainreport).

**Key Report Findings**

- 108 different volatile organic compounds were released from the shower curtain into the air over twenty-eight days.
- After one week, 40 different VOCs were detected in the air; after two weeks, 16 VOCs; after three weeks 11 VOCs and; after four weeks, 4 VOCs.
- The level of Total VOCs measured was over 16 times greater than the recommended guidelines for indoor air quality established by the U.S. Green Building Council, violating these guidelines for seven days.
- Just one new PVC shower curtain will release Total VOCs that exceed the typical Total VOCs residential level for four days.

- The concentration of Total VOCs in the Wal-Mart tested shower curtain was so high that the analytical equipment was saturated and further testing had to be halted so that lab equipment would not be damaged.
- All five curtains tested in phase one contained phthalates DEHP and DINP, chemicals banned in children's toys in California, Washington, and the European Union.
- This testing did not replicate temperature and humidity conditions typically found in a shower, which would likely increase the concentrations of volatile pollutants released from a PVC curtain into the air of a bathroom; concentrations of these chemicals are likely to be even greater during and after a shower than those reported in this study.

“The release of so many volatile organic compounds, many of which are toxic, raises serious questions about the risks PVC shower curtains pose to families, especially young children exposed to these vapors. Every effort should be made to eliminate PVC shower curtains from homes and to replace them with safer alternatives,” said CHEJ Science Director and report co-author, Stephen Lester. On June 10th, CHEJ's Science Director Stephen Lester testified at the U.S. House Energy and Commerce committee hearing on phthalates and bisphenol A about the growing market movement away from phthalates in consumer products such as PVC shower curtains.

CHEJ is the first non-governmental organization (NGO) to conduct a study of this type on PVC shower curtains. These test results mirror and expand upon those first conducted by the U.S. Environmental Protection Agency (EPA). In 1991, the EPA studied emissions of a broad range of VOCs found in a new PVC shower curtain, detecting decane, a VOC also found in CHEJ's study. In 2002, the EPA focused its study on emissions of four chemicals – toluene, phenol, ethylbenzene and methyl isobutyl ketone (MIBK) – from a PVC shower curtain. The results found elevated levels of the chemicals evident beyond one month. The concentrations of these four chemicals were among the five highest found in CHEJ's current results. PVC is the second largest commodity plastic in production in the world today; with nearly 15 billion pounds being produced annually in the U.S.

“Six years after the EPA found that PVC shower curtains continue to release toxic chemicals into the air we breathe for a month or longer, our study shows that nothing has changed. Something must be done to protect consumers from any potential harm these toxic chemicals cause. Wal-Mart and other retailers need to phase out these toxic chemicals. As Congress is considering a variety of chemical policy reforms, it must address the reality that no legal authority currently exists to enable the federal government to regulate consumer products which release toxic chemicals into the air inside our homes – air our children breathe every day,” said CHEJ founder and Executive Director Lois Gibbs.

### **PVC shower curtains' life cycle of potential harm.**

Workers, consumers, and those living in communities nearby to where PVC is made, or ultimately discarded, are at risk of harm from the toxic chemicals within the PVC. Three chemicals are at the core of manufacturing PVC. First, chlorine gas is used to produce ethylene dichloride (EDC). Second, the EDC is converted into vinyl chloride monomer (VCM). Finally, the VCM is converted into the PVC. VCM and EDC are extremely hazardous, with vinyl chloride causing a rare form of liver cancer, damaging the liver and central nervous system. The U.S. EPA classifies vinyl chloride as a known human carcinogen. When PVC is manufactured by workers, or burned when discarded,

numerous dioxins are formed and released into the air and water. Dioxins are a highly toxic group of chemicals that build up in the food chain and can cause cancer, as well as harm the immune and reproductive systems.

### **Health Implications.**

This study found that PVC shower curtains release elevated levels of toxic chemicals into the air and contribute significantly to indoor air pollution. Seven of the chemicals found are classified as hazardous air pollutants by the EPA under the Clean Air Act. VOCs can also cause eye, nose and throat irritation, headaches, loss of coordination and nausea. Key symptoms associated with VOC exposure include eye irritation, nose and throat discomfort, difficulty breathing, allergic skin reaction, headache, nausea, vomiting, fatigue, dizziness and nose bleeding. Phthalates have been linked to reproductive problems including shorter pregnancy duration and sperm damage in males.

"The brain is a major target for VOCs, causing everything from headache and loss of concentration to learning disabilities in children whose mothers were exposed before their birth, as shown in a recent Canadian study. Since there are safe alternatives to vinyl shower curtains, such exposures should always be avoided," said David O. Carpenter, M.D., of the Institute for Health & The Environment at the University at Albany, SUNY.

### **Recommendations to protect consumers, workers & communities from PVC:**

- The Federal Toxic Substances Control Act (TSCA) is 30 years old and must be updated to regulate consumer products which contribute to indoor air pollution and cause health harm.
- The Consumer Product Safety Commission should immediately recall all PVC shower curtains from store shelves.
- Manufacturers and retailers should switch to safer products such as organic cotton shower curtains.
- Government at all levels should act quickly to ban the use of PVC in shower curtains.
- Consumers should avoid purchasing shower curtains made with PVC, and should not buy shower curtains that are not labeled with their content.

"The new shower curtain smell may be toxic to your health," said Michael Schade, report co-author and CHEJ PVC Campaign Coordinator. "The good news is that families can take simple steps to protect their health by avoiding shower curtains made with PVC and choosing healthier products."

To date, Bed Bath and Beyond, Ikea, JC Penney, Sears/Kmart, Macys, and Target have all developed plans to offer more PVC-free shower curtains, but not all have set 100 percent PVC-free phase out plans and goals, while Ikea and Marks and Spencer have.

### **\*About the Volatile Vinyl Study:**

CHEJ purchased PVC shower curtains at Bed Bath & Beyond, Kmart, Sears, Target and Wal-Mart to be used as samples for the testing. Phase one of the study measured the concentration of several hazardous chemicals in five of the PVC curtains present at the point of consumer purchase. Phase two measured the concentration of volatile organic compounds (VOCs) which continue to evaporate from a shower curtain up to twenty-eight days after a consumer hangs it in the household. The number of

potentially harmful chemicals and the longevity of time over which several of them remain present in the air are alarming. To read the full report including tabulated results, methodology, safer alternatives, recommendations, and/or for expert quotes and additional media resources including still photos, b-roll, consumer guides, PVC fact sheets and more: [www.chej.org/showercurtainreport](http://www.chej.org/showercurtainreport).

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### **About CHEJ**

CHEJ mentors a movement building healthier communities by empowering people to prevent harm caused by chemical and toxic threats. We accomplish our work through programs focusing on different types of environmental health threats. CHEJ also works with communities to empower groups by providing the tools, direction, and encouragement they need to advocate for human health, to prevent harm and to work towards environmental integrity. Following her successful effort to prevent further harm for families living in contaminated Love Canal, Lois Gibbs founded CHEJ to continue the journey. To date, CHEJ has assisted over 10,000 groups nationwide. Details on CHEJ's efforts to help families and communities prevent harm can be found at <http://www.chej.org>.