Commonweal Biomonitoring Resource Center
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November 6, 2014

Science Guidance Panel
Biomonitoring California

Re: VOCs to be prioritized within the Biomonitoring California Program

Dear Members of the Science Guidance Panel;

We would like to request that the Science Guidance Panel recommend the prioritizing of VOCs within the list of chemicals of concern under consideration for exposure monitoring by the Biomonitoring California Program. We understand the limitation of Biomonitoring California activities due to funding constraints but consider VOCs to be of sufficient concern for greater consideration, given the number of likely exposure pathways experienced by Californians and the number of well-documented linkages between VOCs and disease.

Volatile organic compounds or VOCs is the name given to substances that contain carbon and that evaporate (becomes a vapor) or off-gasses at room temperature. Some examples of VOCs include benzene, methylene chloride, hexane, toluene, trichloroethane, styrene, heptane, and perchloroethylene.

VOCs are widely used in household and commercial products. Some cleansers, disinfectants, waxes, glues, cosmetics, dry cleaning products, paints, varnishes and preservatives include VOCs. Gasoline, kerosene and other fuels also contain VOCs. VOCs are also found in cigarette smoke and pesticides. A number of building and household materials may be sources of VOCs. New carpeting, backing, and adhesives; draperies; wood products that use certain glues, finishes, and waxes in the manufacturing process; and vinyl type flooring and wall coverings may all release VOCs into the air. VOCs have also been detected at elevated levels around gas production sites, including unconventional natural gas production activities.

The ability of VOCs to cause health effects varies greatly. As with other chemicals, the effects of VOC exposure depends on several factors including the type of VOC, the amount of VOC and the length of time a person is exposed. Exposure to elevated levels of VOCs may cause irritation to the eyes, nose, and throat. Headaches, nausea, and nerve problems can also occur. Studies of animals have shown that breathing some types of VOCs over a long period of time can increase the risk of getting cancer.

Of special concern are exposures to workers in gas production activities. A recent NIOSH study indicates that some workers are exposed well beyond safety standards to benzene, a chemical closely linked to leukemia.

Most Californians are exposed daily to mixtures of VOCs. Measuring levels of VOCs in Californians will help guide public health policies in limiting exposures. Having the capacity to compare average levels of exposure for most Californians to levels found in populations clustered around gas production activities will be critically important in ensuring such activities are appropriately regulated to ensure safety.

We ask you to recommend prioritizing VOCs as chemicals of great concern to the Biomonitoring California Program, and request that you support the Program in developing the appropriate assays for detection and measurement in the appropriate human biospecimens (urine) and in moving forward to measure levels of these chemicals in Californians as soon as possible. We request that you recommend particular urgency in moving forward in testing populations living near sites that are currently or will in the future be developed for the purposes of gas and oil extraction.

Thank you for your consideration.

Regards,
Sharyle Patton
Commonweal Biomonitoring Resource Center