

# Respiratory Hazards and Restroom Deodorant Blocks

## Why are deodorant blocks hazardous?

Some restroom and urinal deodorant blocks contain paradichlorobenzene (p-dichlorobenzene, 1,4-dichlorobenzene, or “para”), a respiratory irritant that can trigger an asthma attack in a person who already has asthma. Exposure to paradichlorobenzene occurs primarily indoors, from products such as deodorant blocks and mothballs.<sup>1</sup> Para persists in the environment, and the National Toxicology Program reports that it is reasonably anticipated to be a human carcinogen.<sup>2</sup> Many other restroom and urinal deodorizing blocks that do not contain paradichlorobenzene contain ammonium quaternary compounds (“quats”), disinfectants known to cause asthma when used in cleaners.<sup>3</sup>

## What alternatives exist?

Deodorant blocks that contain surfactants or bacterial cultures can be just as effective as para-based or ammonium quaternary-based blocks. In addition, auto-flush toilets and urinals may eliminate the need for deodorant blocks in certain situations, while more frequent cleaning of regular toilets and urinals may reduce the need for them.

## Do alternative deodorant blocks cost more?

Erie County (NY) chose to use para-free deodorizers in some of its facilities. The blocks cost approximately \$10 more per dozen. However, these 8-ounce enzyme-based blocks lasted almost three times longer than the para-based product, saving the county money in the long term.

## Where can I get deodorant blocks that do not contain paradichlorobenzene or ammonium quaternary compounds?

Many vendors supply alternative products. A few brand-name deodorant blocks that do not contain paradichlorobenzene or ammonium quaternary compounds are listed below.

Manufacturer	Product Name
Impact Products <a href="http://www.impact-products.com/Catalog1.asp">http://www.impact-products.com/Catalog1.asp</a>	9400 and 9423 Series Para-Free Urinal Screens
Nilodor <a href="http://www.nilodor.com">http://www.nilodor.com</a>	Screen with 8 oz. Non-Para Block #8000
Hospital Specialty Company <a href="http://www.hospeco.com/products.asp">http://www.hospeco.com/products.asp</a>	Health Gards Toilet Rim Cage
Triple S <a href="http://www.triple-s.com/">http://www.triple-s.com/</a>	X-Duty Urinal Screen with Enzyme Block

## Who else is using urinal blocks without paradichlorobenzene or ammonium quaternary compounds?

In September 2004, New York Governor George Pataki signed legislation banning the use of para blocks in schools statewide. The legislation, which is now part of New York’s Consolidated Education Law (Article 9 Section 409-g), prohibits the use of any toilet or urinal deodorizer that contains paradichlorobenzene in all public and private elementary and secondary schools in the state.

Erie County (NY) pilot-tested three alternative urinal blocks in 2001 and found two brands that were acceptable. The county now has only non-para blocks on contract, and it estimates that using these alternative products prevents 1 ton of paradichlorobenzene emissions per year. (For a case study, see <http://www.informinc.org/fserie.pdf>.) Other jurisdictions, including San Francisco and the New York State Department of Corrections, have also stopped using paradichlorobenzene blocks.

### What about the urinal screens that come with the blocks?

Because of the environmental problems associated with polyvinyl chloride (PVC), INFORM recommends buying urinal screens that are not made from PVC. Screens made of polyethylene and other plastics are widely available.

### Recommended purchasing contract specification

Urinal blocks may not contain

- Paradichlorobenzene (CAS 106-46-7)
- Quaternary ammonium compounds, including, but not limited to, the following chemicals:
  - Parasterol or benzalkonium chloride (CAS 8001-54-5)
  - Benzethonium chloride (CAS 121-54-0)
  - Cetalkonium chloride (CAS 122-18-9)
  - Cetrimide (CAS 8044-71-1)
  - Cetylpyridinium chloride (CAS 123-03-5)
  - Benzyltrimethylstearyl ammonium chloride (CAS 122-19-0)

Urinal screens may not be made from PVC.

For more information, contact

Carol Westinghouse

Cleaning for Health

Program Manager

[westies@ecoisp.com](mailto:westies@ecoisp.com)

### Notes

<sup>1</sup> Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Dichlorobenzenes*, Atlanta, GA: US Department of Health and Human Services, August 2006, available at <http://www.atsdr.cdc.gov/toxprofiles/tp10.html>.

<sup>2</sup> National Toxicology Program, "Reasonably Anticipated to Be Human Carcinogens," in *Report on Carcinogens*, 11th ed., Washington, DC: US Department of Health and Human Services, January 31, 2005, available at <http://ntp.niehs.nih.gov/ntp/roc/toc11.html>.

<sup>3</sup> A. Purohit, et al., "Quaternary Ammonium Compounds and Occupational Asthma," *International Archives of Occupational and Environmental Health* 73, 6 (August 2000): 423–27; J. A. Bernstein, et al., "A Combined Respiratory and Cutaneous Hypersensitivity Syndrome Induced by Work Exposure to Quaternary Amines," *Journal of Allergy and Clinical Immunology* 94, 2 (August 1994): 257–59; P. S. Burge and M. N. Richardson, "Occupational Asthma due to Indirect Exposure to Lauryl Dimethyl Benzyl Ammonium Chloride Used in a Floor Cleaner," *Thorax* 49, 8 (August 1994): 842–43.