
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.¹ Para persists in the environment, and the National Toxicology Program reports that it is reasonably anticipated to be a human carcinogen.² Many other restroom and urinal deodorizing blocks that do not contain paradichlorobenzene contain ammonium quaternary compounds (“quats”), disinfectants that are known to cause asthma when used in cleaners.³

What alternatives exist?

Deodorant blocks that contain surfactants or bacterial cultures can be just as effective as para-based or quaternary ammonium-based blocks. In addition, autoflush 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?

The para-free deodorizers that Erie County (NY) chose to use in some of its facilities cost approximately \$10 more per dozen, a minimal increase relative to the county’s overall facilities operational budget. However, the 8-ounce enzyme-based blocks lasted almost three times longer than the para-based product.

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

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

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 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 State of New York 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)
 - Benzyltrimethylammonium chloride (CAS 122-19-0)

Urinal screens may not be made from PVC.

Notes

¹ US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, "Toxicological Profile for Dichlorobenzenes," November 22, 2004, available at <http://www.atsdr.cdc.gov/toxprofiles/tp10.html>.

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

³ 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.

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