



Housekeeping

by Doug Scouten

Dealing with urine stains and their odor in bathroom floors

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It's a dirty story but someone has to tell it. Urine stains in bathrooms are a sore point for many housekeepers. Not only are the stains unpleasant sights and breeding grounds for unsanitary conditions, but the odors associated with them can be downright objectionable. This article will discuss what causes these stains to be a proverbial thorn in housekeepers' sides and how to remedy the undesirable effects of urine on bathroom floors.

What is urine?

Urine is made up of three main compounds: urochrome, urea and uric acid salt. Urochrome is the yellow-colored pigment, while urea is the most abundant nitrogen waste in humans and other mammals, and uric acid salt is a very weak acid that is not very water-soluble. Therefore, uric acid salt can easily bond with a surface, especially porous surfaces, and it can be very difficult to break that bond with a standard cleaner. Although urine in the body is normally free of bacteria and other micro-organisms, once exposed to air it becomes a medium for bacterial growth and produces a characteristic odor.

The bathroom floors in many modern commercial properties are usually comprised of ceramic tile with grout filler. In the old days when urinals would go all the way to the floor, it helped keep the splash factor to a minimum and made keeping the floors clean a little easier. With the new style of wall-mounted urinals, there are a lot of near-miss occurrences. The rough, porous surface of grout provides a perfect place for bacteria to hide and grow. Even when the tile floor itself has been sealed, it still has a coarse surface with places for bacteria to hide. The mild coarseness of tiled flooring surfaces is designed to help ensure safe footing for guests. Unfortunately, this safety feature creates another problem when urine is introduced into the equation.

The problem with cleaning up urine

The urochrome and urea components of urine are water-soluble and can be cleaned up with detergent, as they don't form a hard bond like uric salt does. Again, it is this bond that attaches the urine to a surface that makes it very difficult to remove both the visible stains and associated odors. Detergents and solvents usually clean only the surface, as they cannot break the bonds of the uric salt that hold the urine in place. Likewise, using scouring powders with bleach and deodorizers to clean urine buildup on tile and grout only has a temporary, surface cleaning effect. The freshly cleaned look and scent has a short lifespan; as soon as water comes in contact with the urine, the odor will return. Although bleach kills bacteria and visually whitens the area initially, it is only a surface improvement. Bleach, like detergents, cannot effectively remove urine buildup that has been drawn deep into the porous surface of the grout.

Pictured: This Cleanfix Cleaning Systems auto-scrubber uses a bio-enzyme cleaning solution to remove urine stains and odors from the floors and tile grout in public washrooms.



Bleach does kill surface bacteria, and acid will clean the grout and tile, but there is a limit to how much acid should be used on tile-grouted floors. A constant use of acids will break down the grout and erode the surface of the tile. Thus, acids will eventually etch the tile's surface and provide even more hiding places for the uric salts to hide and bond.

There are many other different types of bathroom cleaning chemicals. Some are designed to not leave a buildup of soap, and some only bleach surfaces. Other chemicals remove rust and molds. There are mild acid cleansers that keep grout looking clean. There are other chemicals such as spray-on foam tile and grout cleaners, as well as powdered bleach cleaners and chemicals that are designed to mask and cover up odors. These are only temporary solutions to the problem of urine buildup, which will get worse with time.

Cleaning urine from tile and grout surfaces

There are two main points to remember. First, how a cleaner is applied is very important. Some of the oldest methods are still ineffectively used today, such as mops and buckets or scrub brushes - which is a 17th century cleaning technique. These methods flush dirty water into a drain or are picked up with a wet-dry vacuum. The best way to clean floors in a bathroom is with a small auto-scrubber. This device is designed to put down cleaning solution, scrub the floor, and then pick up the dirty solution all in one pass. This leaves the floor very clean without leaving a filmy layer on the surface. And, it allows the floor to dry in a short time.

The second and more critical point is to use a chemical that has enzymes in the cleaner which will eat the uric salt. These types of cleaning compounds are designed with enzymes that get into the same hiding places as the uric salts, break down the chemical bonds, and dissolve the salts so they can be washed away with the solvent in the cleaning compound.

One important factor is the time element. These bio-enzyme type cleaners take time for the enzymes to "come to life." This usually takes about 20 minutes, then every 20 minutes thereafter, the enzymes double in growth. If the first application of the bio-enzyme solution does not clean out the urine buildup completely, the process may have to be repeated until the odor is gone. After the buildup is removed, the floors and walls must be maintained with the bio-enzyme chemical. There are some enzymes that can work in a much shorter time. In this day and age, people want instant relief or instant results. That will not happen with this type of cleaning product, but these chemicals are very effective in removing and preventing the odor and stains caused by urine buildup.

The enzyme portion of these chemicals is designed to both clean the surface and kill bacteria by removing the urine medium in which they grow. These chemicals are not to be mixed or used with any other cleaning chemicals, unless instructed. It is very important to read and follow the directions completely, both for safe use and in order for the chemicals to work properly. When the floor and walls have been completely cleaned, the stains and odor will be gone. Most commercial, janitorial supply houses carry bio-enzyme cleaners.

Conclusion

There is nothing better than a good daily maintenance program to keep stains and odors away and ensure a sanitized bathroom. When it comes to cleaning urine buildup, daily cleaning should include using the bio-enzyme chemicals made with detergent, and allowing enough time for the cleaning enzymes to work.

The enzymes used in these cleaning compounds are user-friendly and non-pathogenic. They are engineered and cultivated to target and consume a particular type of bacteria medium, in this case uric acid salt. ✧

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