Successful Urine Decontamination, Odor and Stain Removal

INTRODUCTION

The material in this condensed manual is designed to give basic information and easy-to-follow instructions for correcting urine stains and odors. It features the use of Hydrocide and Bridgepoint’s Bio-Modifier. The oxidation method using new PetZONE is also discussed. With hundreds of odor and stain remedies available to the professional cleaner, even the most educated individuals can become confused when selecting the best products and procedures. By aiding cleaners to understand how the products work and their proper use in various situations this manual will present highly effective solutions in an easy to use and easy to understand format.

While it is our intention to simplify odor control and the urine stain removal process, it must be noted that odor control can be a complex multi-disciplinary procedure. The professional should consider IICRC or distributor sponsored training in odor control and stain removal.

Some of the principles discussed here can be applied to numerous odor and stain removal situations. However, this manual will focus on removing stains and odors from pet urine.

URINE CONTAMINATION

Your Friend Urine:

To the average person, urine is not a pleasant topic. The professional fabric care specialist who can share in the multi-million dollar odor control industry views urine from a different perspective. There is a reason dogs are a cleaner’s best friend.

Unlike other odors you may be called upon to eliminate, urine is more than simply an odor control issue or even a stain and odor issue. There is also a health issue. So there are three issues to be addressed – Stain, odor and decontamination.
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The professional cleaner should view this as more than cleaning – it is decontamination. It is helpful to assist the consumer to have a similar viewpoint. If Mrs. Home-owner appreciates the seriousness of the problem she will be more receptive to the solutions you offer. It is more than simply spraying some magical formula on the stain. Yet, many pet owners think their problems can be solved that easily.

Consider how much urine may be in their carpet. A small dog or cat weighing five pounds or less will eliminate about 2 ounces of urine each time. If the animal urinates only twice a day, it amounts to well over 11 gallons per year. If the animal concentrates that into a small area or even several small areas, which many of them do, then the problem can be quite extensive. Now think about the case where the animal is a Great Dane who considers the living room carpet to be his own special sandbox. The contamination gets worse when there are multiple animals in the home.

Often the home-owner believes that the pet urinating on the carpet is a rare event, an “accident.” You can assure them it was no accident. The animal did that on purpose. The purpose may have been more than simply relieving themselves. For example, male cats are very territorial. They will mark with spray or urine the perimeter or boundary of their territory, wherever they are allowed to roam. When there are multiple animals present the instinct to mark their territory is even stronger. Male cats are not the only animals to mark their territory or lay claim to something by making sure their scent is present in the form of urine.

The Make-up of Urine

Urine leaves the body (either animal or human) as an acid with a pH that is typically between 5 and 6. Until urine is leaving the animal, it is sterile containing no harmful bacteria, pathogens or microorganisms unless the animal has a urinary or bladder infection.

The principle ingredient in urine (from mammals) is uric acid. Urine also contains urochrome (yellow pigment), cholesterol (lipids), urea and other ingredients. The exact make-up of urine will vary depending on the animal’s diet, health and other factors. The urine begins to change immediately upon leaving the body. The urine comes in contact with bacteria in the end of the urethra and on the animal’s skin along with microorganisms in the carpet and elsewhere. The
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warm acid conditions offer a perfect breeding ground for bacteria which begin to flourish. Uric acid begins to be broken down into ammonia and carbon dioxide. The ammonia is highly alkaline (ph 11+). A strong concentrated alkaline can damage dyes and create a permanent color loss. Be aware that what appears to be a urine stain may actually be color loss that can not be corrected by cleaning.

Some have suggested that a fresh urine spot should be treated with white vinegar to neutralize and flush the urine from the carpet. This is NOT what should be done. Vinegar is an acid. You can not neutralize an acid with an acid. A better approach would be for the home-owner to blot up any urine she can without forcing the urine deeper into the carpet. Then she can use Bridgepoint Avenge Neutral Spotter.

You, the professional cleaner, can make this product available to your clients. A private label program is available that permits you to have your company’s name, phone number and logo on the bottle of Avenge spotter you leave with your customers. Home Pro Spotter is a similar product available as the center-piece of a very friendly leave behind marketing program.

As the acidic urine reacts with the ammonia that is being created it forms alkaline salt crystals. In all but the driest climates, these hygroscopic salts draw moisture from the air and remain slightly moist and chemically active. It will produce ammonia gas as long as it is active. When dried urine is remoistened (such as by cleaning) it gives off even more ammonia gas.

The odor of ammonia gas is one part of the distinctive odor that helps us to identify and locate urine. The other component of urine’s odor is off-gassing from bacteria that grow abundantly in warm, dark places with a never-ending food supply. The pet feeds the bacteria daily!

The complex composition of urine and the many chemicals formed as the urine is decomposed by bacteria present a challenging situation. With time, some of these complex organic compounds can actually become part of the fiber.

Even if the bacteria are killed, the ammonia and other chemicals still produce an odor. This is the reason that more than a sanitizing agent is necessary to neutralize odors from urine.
THE BASIC PRINCIPLES OF ODOR REMOVAL

1. **Find the source of odor.** If we don’t successfully locate ALL of the odor sources our result will be less than 100%. Because this step is so important, we will examine it in some detail.

For urine, locating the source is done by our eyes and noses with an assist from moisture detectors and ultraviolet (UV) lights.

A. **NOSE.** We may enter a home or a room and immediately recognize the presence of odors associated with urine. Determining the precise location of the source is more difficult. In part this is because air currents diffuse the odor. Closing any open windows, turning off ceiling fans, heating or air condition and other sources of air movement will make it easier to locate the source. Remember that most women are more sensitive to odors than men. If you are a male technician with less than a great nose for odors you may benefit from a female assisting you.

B. **MOISTURE DETECTOR.** Use of a moisture probe to examine all the carpet in question. As urine dries a chemical reaction creates an alkaline salt. Alkaline salts are hygroscopic, that is they absorb moisture from the air. In all but the driest conditions the salt residue will hold enough moisture to activate a moisture probe.

C. **ULTRAVIOLET LIGHT.** Urine residue will fluoresce or glow under UV light. UV light is actually a range that includes many wavelengths. The most effective UV for locating urine deposits is the long wave UV around 385 nanometers.

Ultraviolet lights in several intensities are available to help you locate urine deposits. Low powered UV lights must be held very close to the carpet in a dark room. Medium intensity lights can work from a few feet away. High powered lights can quickly be used to check a carpet from several feet away.

All UV lights work best in a dark room but this is not as critical when using a more powerful light. When necessary, black plastic sheeting can be used to cover
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windows. Another option is for the technician to drape a sheet or dark blanket over himself while he is making the inspection.

Goggles are available that help intensify the glow from fluorescent areas. These should be used for effectiveness and to protect the eyes.

UV or black light may be produced by specially treated florescent bulbs, incandescent bulbs or by LEDs. Newer LED flashlights provide delivered illumination almost equal to the most powerful lights used in our industry. The flashlights are lighter weight, more compact and not tied to an electric cord. LED UV flashlights also eliminate the warm-up time of standard UV lamps.

Urine is not the only thing that will glow under a black light. You will recognize urine by the shape of the spot and by its characteristic yellow (from dogs) or greenish (from cats) glow. However, a bluish glow may indicate urine stains where cleaning has been attempted with a product that contained an optical brightener.

The portion of urine that glows is the salts. It takes only a very small amount of salt to produce a noticeable glow under a quality black light. Cleaning procedures will dissolve the salt. When the water is extracted most of the salt is removed. However, the salt will be evenly dispersed throughout the water. Thus, if 80% or 90% of the water is removed by extraction, 10% or 20% of the water is left behind along with 10% or 20% of the salt.

Water that dries by evaporation rather than extraction leaves its salt behind. So while the components of urine that cause the stain and odor may be removed, the small percentage of salt left behind may still be enough to produce a glow under UV light.

There are products that will temporarily hide this florescence but they will wash away or wear away. The effect is only temporary. We do not recommend their use in most circumstances.
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D. EYES. Of course, a yellow stain on the carpet is a good visual indication of urine contamination. Where practical, a positive method for detecting urine is to disengage the carpet, turn it back and inspect the backing for stains. Stains will be most apparent on natural fiber backings like jute, but can be detected on synthetic backings as well. Water stains and/or white salt residues will be visible. The disadvantage of this method is the time and effort required to turn back the carpet. This inspection method makes sense when complete eradication of the odor is being considered.

Use all available tools – eyes, nose, moisture detector and UV light -to be sure you have located all urine deposits. Be sure to mark the location of all odor sources. You may use white chalk, pennies or some other markers. A diagram on graph paper will help you locate the problem areas if the treatment is being done at a later time. A diagram is also helpful to use when explaining to your customer what services are needed.

2. Pretreat and/or clean the contaminated area. Each time an animal urinates some lipids (animal fats) are excreted as part of the urine. If Aunt Mildred’s miniature poodle Fifi was visiting and wet the carpet one time – then the small amount of lipids present will have little effect on your cleaning. On the other hand if the contaminated area you have to deal with is the favorite spot where Danny the Doberman returns on a regular basis there is likely to be a build-up of lipids.

Being oils, lipids repel water and water based cleaning agents. For any further steps to be effective it is necessary to first get rid of the lipids. To determine if lipids will prevent other products from getting to the problem, use your fingers to feel a few of the worst tufts, ugh. Now go wash your hands!

If the carpet has a sticky or oily feel, it will be necessary to first remove the lipids with a solvent. Apply Gel Break. Work this into the carpet using a cloth, Gum Getter or grooming tool. Allow 10 to 15 minutes dwell time. Rinse thoroughly with hot water.
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There is another pretreatment process that will make the cleaning more effective and the stain removal faster. This is removing the alkaline salt residues. An acidic product works best at neutralizing the alkaline residue making it easier to rinse out. **T.C.U. Neutralizer** (Tannin / Coffee / Urine Neutralizer) is excellent for this purpose. T.C.U. Neutralizer should be mixed 1 to 4. Apply according to label directions prior to cleaning carpet.

3. To treat the remaining odor we must **recreate the conditions** that caused the contamination. In the case of contamination by a liquid such as urine, the treatment will require the use of a liquid odor control agent. Later sections of this manual will explain which products to choose and how to best use them in various situations.

4. **Sealing.** In some cases urine will have penetrated into concrete or wooden sub-floor underneath the carpet. Because these materials are very porous it is usually not possible to completely clean them. Then it will be necessary to seal in any remaining odor using varnish, shellac or an acrylic sealer.

Pigmented shellac makes an excellent sealer. However it will change the appearance of the surface to which it is applied. This means it will not be appropriate in every situation. Clear shellac or an acrylic sealer for floors or concrete also works will. These products are clear and will not change the appearance as markedly as a pigmented product.

THE PERCEPTION OF ODOR

Odorous molecules must become volatile or evaporate to circulate in the air and reach our noses. Odor molecules are small to mid-sized molecules. Exactly how these molecules trigger the sensation of smell is not completely understood. One popular theory can be illustrated by a lock and key. Receptors (the locks) at the ends of our olfactory nerves are specially shaped. Only the right shaped molecule (the key) will fit into the receptor activating the sensation of odor.

These receptors are concentrated in the epithelium, a thumbnail sized area with about ten million sensory neurons. These receptors are so sensitive they can detect one odor molecule among
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millions in the air. On average, men can identify 3,000 to 5,000 distinct odors. Women can identify close to 10,000.

These nerve endings are the only nerves that are replaced every few weeks. In addition, they have only a thin layer of mucus protecting them from stimuli in the environment. This is significantly different from nerve ending under our skin, behind our eyeballs or inside the ear.

The other end of the nerves is in the olfactory region of our brains. Therefore these nerves are truly where our brain meets the outside world. This may be why there is such a connection between odor and memory. Odors can trigger memories. The reverse is also true – when recalling a memory it may include a strong sensation of odor. As with other aspects of odor, women are more sensitive. Seeing a stain where we previously smelled an odor may spark a recall of that odor. This psychological odor is not a real odor but your brain can’t tell the difference.

In order to completely satisfy our clients it may be necessary to remove the real stain and odor plus the psychological odor. Removing the psychological odor depends in large part on instilling confidence in our client. Our professional manner, the tools we use, our own confidence in our ability and training all play a role.

It is well to keep in mind that moisture increases the perception of odor. For example the smell of a wet dog is more pronounced then the smell of a dry dog. There is no odor to the water, but adding water to the dry dog produces the wet dog smell. This is because water is a vehicle to help the odors reach our noses. Odor molecules travel as “passengers” on molecules of water vapor.

The salts and crystal formed as urine dries are hygroscopic. That means they draw moisture from the air. Moisture reactivates the release of ammonia gas. Bacteria will also be more active when there is more moisture. Active bacteria off-gas malodorous molecules. Often our cleaning efforts provide that moisture. Cleaning several rooms of carpet adds a great deal of moisture to the air in a home.
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LEVELS OF CONTAMINATION

In order to choose the most appropriate treatment for any given situation it is helpful to define the levels of contamination.

Superficial

Pets are present in the home but your detective efforts have not located any deposits of urine. A likely source of the odor is oils from the animals coat along with hair and dander left in the carpet.

Light

Urine was deposited in small enough amounts that most of it was absorbed into the face fibers. A small amount of urine may have reached the backing but not enough to penetrate through the carpet and reach the pad or sub-floor. Contamination could be described as light even when there are numerous deposits spread throughout the home or a room. If many deposits occurred in the same location the urine would likely have reached the pad and the floor below. In that case the contamination would no longer be described as light.

Moderate

Urine has penetrated the carpet backing. Stains and/or salt will be visible on the back of the carpet. The cushion will be affected and likely the floor or sub-floor beneath the pad. The amount of lipids present is not enough to make the face yarns sticky. If tackless strip has been affected it is still structural sound and not rotting.

Severe

The carpet, backing, cushion and floor are all contaminated. Tackless strip may be rotting. Urine may be wicked up into wall board. The face fibers will be sticky from a build-up of dried lipids.

Location

Your choice of treatment will also be influenced by the location of the contamination. It is relatively simple to disengage and turn back a carpet to reach a stain near a corner. If the stains
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are in the center of the room or throughout the room, turning back the carpet may involve considerable furniture moving and the ability to reinstall the carpet including power stretching.

Level of Tolerance

Of even more importance than degree of contamination or location is knowing what degree of odor removal will satisfy your client. In homes where the pets will remain after cleaning complete odor removal and decontamination may not be practical. On the other hand, 100% odor removal may be the only satisfactory answer for property that is for sale. Total odor removal is obviously the best choice when this can be accomplished quickly and at low cost. Many times that goal is unattainable. We have seen cats cause damage (just from urine) to a 1,200 sq. ft. house that exceeded $20,000 to repair. Complete and total elimination of the problem was an expensive but welcome solution for that customer. Many customers would opt for a less thorough but less expensive cure.

The level of tolerance of your customer must be confirmed before any work is started. In almost every case choices must be made as to the extent of work you will do to remove the odor and the cost of the various options.

Before making a decision on what services will be rendered and what results to expect from the services, consider other sources that may contribute to the odor. We have already mentioned carpet, cushion, sub floor, tackless strip and possible wicking into wall board. Other structural components and furnishings also have to be analyzed. Odors and gasses given off by the decomposing urine can be absorbed by any porous surface. This may include upholstery, drapes, clothing, and unfinished wood in furniture or cabinets. Odors in the air can enter the HVAC system and be carried to all parts of the home. In the process air filters and other parts of the HVAC system are contaminated. The degree of contamination will vary; but you the professional cleaner must be prepared to address every possible source.
TREATMENT

Based upon the above considerations of severity, location, budget and level of tolerance we will discuss several options for treatment. Since chemicals are a vital weapon in our treatment of urine odors, we will first cover the features of several. These are products that have proven to be effective in the field while being used on thousands of odor problems.

BACTERIA AND ENZYMES

Bacteria and the enzymes they produce (bio/enzymes) have been used successfully for many years in our industry and others. They have proven effective to remove the greasy build-up that occurs in the drains of restaurants. Bio/enzymes are the primary organism used to break down sewage in treatment plants, returning the water to a clean, non-hazardous condition. Some laundry detergents contain enzymes. Enzymes were first used in our industry as spotters for breaking down organic and protein based stains.

Enzymes are chemicals that are produced by living organisms such as bacteria. Bacteria are unable to absorb and digest food internally. They use enzymes to digest or break down complex molecules to simpler ones that can be used by the bacteria as a food source. Chemically they can be thought of as a catalyst. They speed up the break down of these chemicals without themselves becoming part of the reaction.

The names of each enzyme help identify the natural product they are best at breaking down. Protease is an enzyme that digests protein. Lipase works on lipids (animal fats). Amylase breaks down starches. Cellulase digests cellulose and so forth. In some circumstances, enzymes also work to breaking down other substances.

Friendly (non pathogenic) bacteria are packaged in a dormant form that is activated in the presence of moisture and an organic food source. Once activated, they grow and multiply until the food source is consumed. Under ideal conditions, the number of bacteria will double every 20 minutes. Each cell could add over 16,000,000 additional waste and odor digesting bacteria in eight hours. But when the food source is completely gone, the bacteria die and enzyme production stops.
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A previous limitation to using bacteria and enzyme products was the conditions they worked under. Too high or too low a pH could stop or slow the action of the enzymes. The presence of other cleaning agents could interfere with the process. Previously used disinfectants would kill or reduce the number of active bacteria. Because biological breakdown was a slow process it was necessary to treat with enzymes and return at a later time to clean.

The technology used in Bridgepoint Bio-Modifier allows you to over-come these limitations. Cleaning and treatment can often be accomplished on the same day. While there are still preferred conditions for using Bio-Modifier, it can still be effective in circumstances that would have rendered old style bio-enzyme products useless.

Bio-Modifier

Bio-Modifier is a ready-to-use, highly active solution with superior odor counteractants to knock out odor. Bio-Modifier contains a high concentration of bacteria. Of course, you could eventually accomplish the same result starting with fewer bacteria. But, when you start with millions of bacteria you save time waiting for them to multiply. Because of this Bio-Modifier works in a much shorter time than typical bacteria/enzyme products. Bio-Modifier produces multiple enzymes to digest the source of the contamination quickly and effectively. Besides urine, Bio-Modifier will work on odors caused by almost any organic source including mold, mildew, decaying food, organic rot, vomit, skunk and more. Bio-Modifier is the ideal product to use in apartments, residential or commercial jobs where time may be a factor. When used as described in the following section, Bio-Modifier can neutralize odors deep in the carpet and pad.

Hydrocide

Hydrocide is an amazing new odor counteractant. Hydrocide is new technology. It does not fit into the traditional categories of odor control agents. Its special designed molecular structure has an expanse of surface area that absorbs, binds to and counteracts odors from many sources. In addition to being very effective on urine it can handle odors from organic decay, chemical processes, skunk, vomit, smoke and more.
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Hydrocide works immediately on contact with odors to make your cleaning job more pleasant. As a bonus, Hydrocide contains a polymer that helps slow resoiling of the treated area.

Hydrocide does not add an over-powering fragrance to cover odors. A strong fragrance could prevent you from knowing if you had been successful in removing the offending odor. Hydrocide has a slight fragrance while it is working. This will dissipate leaving no residual fragrance.

Hydrocide contains no bleaches, no bacteria, no enzymes, no oxidizers nor chemical desensitizers. It is safe to use even when children or pets are in the home. Hydrocide can be used on carpet, upholstery, mattress and a variety of hard surfaces.

TREATMENT BASED ON SEVERITY

**Superficial** – When animal odors are present in carpet or upholstery but there is little or no urine contamination – add Hydrocide at the rate of 2 to 8 ounces per gallon prespray. Proceed to clean as usual. Hydrocide will absorb odors on contact. Odors deeper in the tufts will be reached as you groom your prespray into the carpet. You’ll enjoy a more pleasant working environment and your customer will love the refreshing smell of clean.

**Light** – Apply Bio-Modifier liberally to visible stains and other locations you have detected urine. For maximum effectiveness, you can heat Bio-Modifier by placing the gallon jug into a bucket of water. Heating the water with a bucket heater (AX28) will heat the Bio-Modifier. Don’t exceed 120°F. Allow as much dwell time as practical. Effective dwell time can range from twenty minutes to several hours. Bio-Modifier can be working while you set-up equipment, vacuum, move furniture or clean other areas.

Clean the affected areas using Hydrocide in your prespray as described above.

**Moderate** – As the extent of contamination increases, so do the choices of treatments. The basic process will be described first. Then we’ll discuss additional steps that may be used depending on the consumer’s level of tolerance and budget.
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Prespray any visible stains using T.C.U. Neutralizer. This is an acid side product that breaks down the alkaline salts. For best result, make a liberal application that will reach not only the stains on the surface but dried urine residues in the backing. Allow T.C.U. Neutralizer at least 15 minutes dwell time. If all the carpet is being cleaned at this time, go ahead with your cleaning now. Be sure to include a step to work your pretreatment and prespray into the face fibers.

After completing the rinse and extract steps of your carpet cleaning, saturate contaminated areas with Hydrocide. Hydrocide is highly concentrated. The dilution rate is 2 to 8 ounces per gallon. For the best result, Hydrocide must come in contact with all the source of the odor. If the urine has reached, the backing, the cushion and the subfloor then the Hydrocide must also reach there. Be aware that the size of the stain on the surface will be significantly smaller than the area to which the urine has spread. As the urine reaches the backing it spreads horizontally before soaking through. On reaching the subfloor, the liquid again spreads laterally in addition to soaking into the flooring. What appears to be a 6” stain on the surface may have expanded to several square feet by the time it has penetrated the floor. Don’t skimp on the application of Hydrocide. It must reach every place the urine went.

Use the Water Claw Sub-Surface Spot Lifter tool or a larger sized Water Claw to extract moisture from the spots you treated. You can thoroughly flush all contamination from the area by allowing additional water to flow to the spot while continuing to extract with the Water Claw Spot Lifter.

Use air movers or take other steps to make sure the treated areas dry in a reasonable time. (Turn on ceiling fans, activate air conditioning, etc.)

Remember, that despite ads directed to your customer, there is NO miracle product that can be spritzed on the surface of the carpet that will remove urine odor from the carpet, the backing, the pad and the floor. However, using the procedure described here you can drastically improve the situation, often to the customer’s complete satisfaction. If you and the client decide to treat the problem from the surface, you can always improve the situation but almost never can you guarantee complete odor removal.
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Additional Steps – When the situation calls for it, you may decide to remove and replace the pad, clean and/or seal the floor, clean the back side of the carpet and then reinstall the carpet. These steps may be taken when responding to moderate or severe levels of contamination. These steps would be done first. Then the face fibers should be treated as described above. Additional details on how to perform these steps are described later in this manual. Don’t overlook other sources of odor in the structure and furnishings.

Severe – For complete odor removal in a severely affected carpet, an extensive treatment is required. Often a pet will “go” in the same general area for period of a year or two or more before remediation is started. Considering the volume of urine deposited over time you can be sure that the cushion and floor have been saturated.

Given the extent of contamination, we’ll cover the steps necessary for complete odor removal. You and your customer can decide if it will be possible to skip any steps and still achieve an acceptable result.

1. Disengage the carpet using a knee kicker and an awl. Turn back the carpet to expose the affected area. Some furniture moving may be required. The pad should be removed and thrown away. Inspect the floor. Wood floors should be cleaned followed by an application of Bio-Modifier or they may be sanded. Concrete floors can be cleaned by wet mopping with Bio-Modifier. Floors should then be sealed. Extend the application of sealer at least 1’ beyond the contamination.

While the carpet is turned back, examine the tackless strip, baseboard and walls. Any contaminated materials must be removed and replaced or cleaned and possibly sealed.

   After the sealer has dried replace the pad.

2. Treat both the front and back side of the carpet with a solution of T.C.U. Neutralizer. Allow 15 minutes or more dwell time.

3. Extract affected areas, both front and back, using either Point Blue or Power Point as your emulsifier. This will clean the carpets including removing urine.

4. Reinstall the carpet.
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5. Spray the carpet with Bio-Modifier. Bio-Modifier can be mixed with Bridgepoint’s Premier Odor Counteractant \textbf{Spice Air}. The spice fragrance will please your customers as well as aiding in odor removal. Drying time will range from 24 to 48 hours. Ventilate. The final result will be evident about 24 hours after the carpets dry.

6. Clean and deodorize other surfaces that may have absorbed odors over time. If male animals were in the home, check for urine on vertical surfaces such as walls and furniture. Hydrocide can be used on upholstery, in wall cleaning solutions and for many other surfaces. Change the air return filters in the HVAC system. Check to see if the air handling system could be redistributing odors. If so, then the ductwork may need cleaning as well.

\textbf{ALTERNATIVE OPTIONS}

You may elect to clean the face of the carpet as described above but not to disengage the carpet to treat the backing, the cushion and the floor. This decision may be based on the client’s budget, level of tolerance or the time available to complete the project.

\textbf{Injection}

Another useful way of treating urine contamination without the hassle of turning back the carpet and removing the pad is a subsurface treatment injected with a hypodermic needle. While not as thorough as the process described above, injection can successfully treat odors (but not stains) especially when the contamination is confined to small areas.

The injection can be made with a 50 cc syringe and a 19 gauge needle. These are available from your Interlink distributor. The needle can pierce the backing of the carpet and apply Bio-modifier to the pad and floor. A syringe of solution will spread 2 or 3 inches in each direction from the point it is injected. Make one injection every 4 – 6”. Be sure to treat not only the area visible from the surface but the expanded unseen contamination. As a margin of safety, extend the treatment zone several more inches in each direction.
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STAIN REMOVAL

Injecting odor control products does not address stains. Even when using other treatments, you may find some stubborn stains remain. The high alkalinity of ammonia or other strong chemicals in the urine may actually remove color. The “stains” may not be stains at all but color loss. Lost color can not be replaced by cleaning.

Stains or remnants of stains can be removed using Stain Zone. Stain Zone is a powerful one-part oxidizer that provides excellent results on many organic stains including urine stains.

Simply apply Stain Zone full strength. Stain Zone can be applied to damp carpet, but it will be more effective when applied to dry carpet. When practical, use air mover to help dry wet carpet before applying Stain Zone. Stain Zone works gradually to lighten the stain. Apply enough to keep the spot damp for 3 to 8 hours. When the Stain Zone is dry the stain will be gone.

Besides how effective it is, there is another great advantage to Stain Zone – it is volatile. That means that it completely evaporates. There is nothing to leave a residue, nothing that needs to be rinsed out. If you see the stain has been eliminated, you can rinse out any remaining Stain Zone. But you can also just apply it and go. Stain Zone can be used on any colorfast carpet.

OXIDATION

One of the fastest methods of treatment deals with all three aspects of urine deposits – odor, stain and contamination. This process releases a large volume of oxygen causing the urine to break down to basic components such as oxygen, nitrogen, carbon dioxide and other components that either leave as gases or are easily extracted.

Spot Treatment

For isolated spots in the middle of a room, you may decide that it is not practical to disengage and turn back the carpet for treatment. Here is an alternative treatment that provides great results
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with less effort and time. The combination of flushing and oxidation can be used for urine stains scattered throughout a room.

A modified version of this treatment works well for heavier contamination is discussed later.

The oxidation process does involve significant amounts of water. Be sure you have the necessary vacuum to extract the solutions you will use. Both the cushion and flooring will be wet. Prolonged exposure to moisture can lead to musty odors, warp wood floors or cause other problems. You will need to decide if this method is appropriate to the situation you face and the equipment you are using.

If the stain is severe, treat with T.C.U. Neutralizer and rinse then follow these steps.

1. Flush out most of the urine with a stream of water and use a Water Claw spotting tool. Place the Water Claw over the stain. Using a hose with a nozzle or other means, direct a small stream of water around the outside of the contamination. The water should be sucked through the affected carpet fibers and extracted by the Water Claw. When the water coming through the Water Claw is clear you can move to step #2.

2. Mix 6 ounces of PetZONE with Hydrocide per gallon of hot water. Use the hottest water available. The water should be at least 160°F. 180°F is better. This releases a lot of oxygen that causes effervescence or foaming. Use a bucket that can hold two to three times as much solution as you are making. Stir to dissolve the PetZONE thoroughly.

3. Saturate the affected area with this solution. For thick carpet and pad, use about 1 gallon for every 4 sq. ft. For carpet with no pad, 1 gallon will cover about 9 sq. ft. Leave this 30 to 40 minutes.

4. Extract using the Water Claw. It is important to remove as much water as possible. Let dry. You may use ceiling fans, air movers or other drying aids.

Here is the alternate method for severe stains when you decide the cushion should be removed. This works well when the affected area is near a corner or edge of the carpet. Proceed as follows:

1. Turn back the carpet. Remove and discard pad. You may place new pad on top of the old pad. Cut both at once to get a replacement piece of cushion that exactly matches the section you will remove.

2. Clean and seal the floor if needed.

3. Put down plastic sheeting to make a trough. This will keep water from running under a wall. Two mil thickness is sufficient.

4. Apply the solution of PetZONE with Hydrocide described above. Use about 1 gallon for every 9 sq. ft. since there is no pad.

5. Wait 30 to 40 minutes. Extract.

6. Replace pad.

7. Reinstall carpet.
Successful Urine Decontamination, Odor and Stain Removal

One treatment is usually sufficient, but stubborn stains may require a second application.

Since you are greatly speeding up the natural decomposition of the urine, there may be a strong concentration of odorous gases while the process is working. Hydrocide in the solution helps control odors while the oxidation is happening. Use ventilation and good air movement during the process.

Customer Expectations

When pets live in a home there will be pet odors. Period. Mr. & Mrs. Home-owner, who consider the pet to be a member of the family, may have grown accustomed to the odor. Once you have restored their home to a clean, sanitary, odor-free condition, they may notice those odors returning. They may decide to blame you because the odors “came back.” If you have correctly followed the steps above, it is not your fault.

A happy consumer results when you meet or exceed their expectations. It may be necessary to adjust those expectations, especially when pets will remain in the home! Animals are creatures of habit. They will return to their favorite places. Male animals will mark their territory. This is even more likely when there is another animal in the home. Be sure your clients know what to expect after you leave. Never guarantee 100% odor removal when a pet will still be present!

OTHER SOURCES OF ODOR

The principles discussed in this manual can be applied to many other situations where odor is an issue. Remember – 1) Remove the source of the odor; 2) Clean the affected areas; 3) Re-create the conditions that caused the odor; 4) Seal any source of odor that remains.
Successful Urine Decontamination, Odor and Stain Removal

Organic Odors - Garbage, Spoiled Milk, Fish, Dead Animal, Skunk and so forth

Given the wide range of possible odors, materials affected, degree of severity and so forth, a one-step solution is not always possible. Hydrocide works on contact for organic odors. Apply Hydrocide in sufficient quantity to be certain it comes in contact with all malodorous material.

When the source of the odor can not be completely removed, the enzymes in Bio-Modifier can break it down over time. Remove as much of the odor source as possible. Rinse. Apply Bio-Modifier. Allow time for it to work. The best results will not be observed until several hours after drying is complete. Allow several days for the final outcome. A second application maybe necessary in cases of severe odors.

Fire & Smoke Damage

To knock down odors in fire and smoke damage situations, Bridgepoint Premium Odor Counteractants Spice Air or Neutral Air can be sprayed on any surface not harmed by water. These products can also be added to most cleaning solutions.

To absorb odors and keep them from spreading, place Bridgepoint Odor Crystals on paper plates on or near sources of odor.

Thermal fog the airspace using Bridgepoint’s Citrus Thermal Fog.

For a more detailed explanation for these odors or for information on controlling odors not covered in this manual contact your local Interlink Supply store or call 1 800 794-7425 and ask for technical support for an odor control issue.

The following websites contain helpful Technical Bulletins for dealing with a variety of odor problems as well as other cleaning related issues.

WWW.InterlinkSupply.com
WWW.Bridgepoint.com