

Urine Decontamination



AP491 Pet & Flood

Combination of a carefully selected blend of organic and polymeric acids with antimicrobials and odour neutralizing chemistry. This formula provides for effective neutralization of the urine crystals and stain removal. Pet & Flood also destroys the odour causing germs and provides deodorization. Pet & Flood enjoys a high level of success on the vast majority of urine spots. Certainly the product of choice for all general urine spotting.

STAIN REMOVAL & ODOUR ERADICATION

Unless treated immediately, urine deposits in carpets and fabrics are alkaline in nature. As the urine dries it forms alkaline crystals. These crystals hide bacteria (E-Col i) and contribute toward the evident stain. Removing these urine crystals is essential if the urine treatment is to be effective.

The most effective urine treatments are acidic and neutralize the alkaline crystals allowing them to be removed together with much (or all) of the stain and the odour causing bacteria.

Urine spot treatment can be broken down into two principal divisions, which if understood will make urine spot treatment dramatically more successful.

- 1. Odour Removal** - The mal-odour associated with urine is essentially caused by bacteria. By removing the urine crystals (which harbor bacteria) and destroying the bacteria, the odour source is effectively removed.
- 2. Stain Removal** - The stain caused by urine is often effectively removed by using the correct acid chemistry. However, some stains will only respond to the bleaching action of Hydrogen Peroxide. Furthermore, some urine spills (particularly on wool) will have permanently damaged the carpet fibre and the stain cannot be removed.

To achieve effective urine spot treatment, Actichem have three products available to provide for every situation.

Pet & Flood (AP491)

Odour neutraliser & stain remover. (see above).

Spotaway U (AP493)

Spotaway U is a precise concentration of Hydrogen Peroxide for removal of stubborn urine stains.

Biosan II (AP439)

Biosan is a powerful anti-microbial decontaminant with TGA testing approval. Biosan II is ideal for treating severe odour sources especially in rug washing applications.



Urine Decontamination

Helpful tips for treating urine stains.

Urine decontamination - Encapsulation carpet cleaning:

- In this case where you are only doing encapping, Spotaway U is the way to go. However in severe cases or in cases where large areas are affected Spotaway U may not be capable of totally eliminating the odour.
- Spotaway U will remove 100% of the stain but possibly not 100% of the odour.
- Whereas Pet & Flood will remove 100% of the odour but possibly not the entire stain. In which case you would need to apply Spotaway U.
- The main thing that causes the odour to persist is the alkaline urine crystals, so in thinking about it the best option in the case of encapping would be to use Brownaway prior to encapping. The reason why I suggest Brownaway is that its acidic nature will break down the alkaline crystals

We use Deosan for the odour and Spotaway U for the Stain. Is Brownaway able to be replaced by Actichem CTR?

- No. Brownaway can not be replaced by Actichem CTR in this application.

Is Deosan designed to be used for bacterial urine odour?

- Deosan is indeed for odour, however Deosan will only kill the bacteria it comes in contact with. In the case of urine, the bacteria are encased in the uric crystals preventing sanitizers from killing them. SO, the acid breaks down the crystals releasing the bacteria so that the sanitiser can kill them and thus eliminate the smell.
- Spotaway U will also break down the crystals, kill the bacteria and remove the stain, BUT it has poor wetting ability (being Hydrogen Peroxide) and will mostly not penetrate down far enough to tackle ALL the uric crystals which may be in the underlay and floorboards. This may result in odours reoccurring.



Urine Discolouration

What causes discolouration on wool carpets

Urine effect on wool and wool dye bonds

Once dried, urine typically has a pH of approximately 11,2. This highly alkaline pH is damaging to both the wool fibre and the wool dye bonds. Wool is dyed in an acid medium and alkalinity weakens the dye bonds. This is one of the reasons carpet professionals use an acid rinse to when cleaning wool to ensure that the carpet is left in a slightly acidic state.

With the wool carpet fibres being in contact with the urine contamination over an extended period, the dye bonds are significantly weakened. However, the dye stays in place and the carpet colour does not necessarily change. When a cleaning process takes place to clean the carpet or remove the stain the dye bonds are too weak to retain the colour and the dye is flushed away with the soiling and a “bleached” area appears.

So it is important to note that the bleached appearance is as a result of the urine not the cleaning process of solution.

Please see below extract from The WoolSafe Institute document on “Rug Discolourations from Urine” .

When the fabric has been stained or discolored from the pet urine, it takes a lot of time and effort to attempt to reverse the damage.

Why? . . . Because urine components have the ability to stain (dye) and/or bleach (discolor) fibers, especially fibers like nylon or wool. Don't forget, when these fibers are manufactured they are contact-dyed with acid dyes. When urine, feces or vomit are first excreted from the body, they are highly acidic, just like the dye solution used to fix color on nylon and wool fiber. If customers act quickly, removing urine's yellowish stain can be accomplished with almost any cool, neutral detergent solution. If they don't act quickly – and who has time to follow their animal around all day - then more complex oxidizers and professional techniques usually are required to remove the stain. Keep in mind also that the color of the stain can be affected by the age of the animal, the amount of water, and food or medications it has ingested.

Further, if the contaminating substance has not been diluted, neutralized and extracted quickly, then as bacteria in the urine multiplies and produces enzymes, the deposit becomes highly alkaline (smells like ammonia, doesn't it?), and actually “bleaches” color from fibers. It's the ammonia that causes the loss of color in rugs, not necessarily the presence of the yellow pigment in the urine itself. The loss of dyes caused by prolonged exposure to ammonia is another story entirely. Don't make the mistake of thinking that the yellow color can be removed with a simple cleaning solution. Correcting color loss caused by alkalinity can only be accomplished by adding color or spot dyeing fibers.

Urine Discolouration

What causes discolouration on wool carpets

Examples of urine discolouration on wool - Images supplied by Pressure & Steam (Sydney)



Pet & Flood

Pet & Flood is used where urine odour is the main cause of complaint.

Pet & Flood contains all the ingredients required to neutralize uric crystals, kill the bacteria and neutralize the mal-odour. It will in many cases also remove or lighten the stain. Because urine often penetrates far beneath the surface of the carpet, the “wet-out plus water claw” technique with Pet & Flood is often used with great success. One-off urine spills or lesser affected areas may be treated with less volume of solution and extracted with a carpet wand.

Spotaway U

Spotaway U is used where the urine stain is the main cause of complaint.

If urine odour is not detectable or if the Pet & Flood has not removed all the stain, then treatment with Spotaway U is required. Being a hydrogen peroxide based solution it will also treat the uric crystals and bacteria in localized or smaller urine spills. Spotaway U can be left on treated areas without extraction and will continue to work over 2-4 hrs. This is often a great solution where a shadow stain still requires removal.

Adding Hydrogen Peroxide to Pet & Flood

Pet & Flood is compatible with hydrogen peroxide and the combination of the two solutions provides the best features of both Pet & Flood and Spotaway U in one step.

The addition of hydrogen peroxide (Actichem Perox) will provide the following added benefits;

- Excellent (best possible) stain removal.
- Ultimate antimicrobial capacity which in turn provides extra odour neutralisation.

The following guidelines should prove helpful.

Wool - Urine Stain removal and decontamination

1Lt ready-to-use solution

- 740ml water
- 200ml Pet & Flood
- 60ml Perox (Hydrogen Peroxide 50%)

The Pet & Flood quantity can be increased if so desired up to 940ml (ie. no water)

Synthetic - Urine Stain removal and decontamination

1Lt ready-to-use solution

- 700ml water
- 200ml Pet & Flood
- 100ml Perox (Hydrogen Peroxide 50%)

The Pet & Flood quantity can be increased if so desired up to 900ml (ie. no water)

Hard Surfaces – Urine Stain removal and decontamination

(Wood, concrete, etc)

1Lt ready-to-use solution

- 600 - 700ml water
- 200ml Pet & Flood
- 100 - 200ml Perox (Hydrogen Peroxide 50%)

The Pet & Flood quantity can be increased if so desired up to 800ml (ie. no water)