



DISINFECTANTS

What is the difference between disinfection and sterilisation?

Sterilisation is the removal of all forms of microbial life from an environment, and is very difficult to achieve in the home. Disinfection is the selective elimination of certain undesirable micro-organisms in order to prevent their transmission. In terms of the home with pet cats, disinfection is necessary to prevent the spread of infectious diseases from one cat to another, or, in a few cases, to humans.

What are the important types of micro-organisms to consider?

A number of different organisms can infect cats - protozoa such as *Toxoplasma gondii* and *Giardia lamblia*, which are also important infections of humans, yeasts and fungi, bacteria, mycoplasmas, *Chlamydia psittaci* and viruses. Of these, viruses are generally considered to be the most important pathogens of cats. The viruses include the 'cat flu' viruses feline herpesvirus (FHV) and feline calicivirus (FCV), feline parvovirus (FPV) the cause of enteritis and panleukopenia, feline leukaemia virus (FeLV), feline immunodeficiency virus (FIV) and feline coronavirus, the cause of feline infectious peritonitis (FIP). FPV and FCV are the two viruses which are most resistant to most disinfectants, and are two of the most infectious, so a disinfectant that is effective against these two viruses is desirable.

What types of disinfectants are available?

Chemical disinfectants can broadly be divided into liquid and gaseous types, but only the former are a viable prospect for home disinfection. Many different types of chemicals have disinfectant properties, the most common ones being listed below:-

Phenolic compounds

These compounds, derived from coal tar, include 'Lysol' (cresol and soap solution), 'Stericol' (xylenol-rich cresylic acid and soap solution), and 'TCP'. They are sometimes mixed with pine disinfectants, e.g. 'Dettol'. Phenolic compounds are effective against viruses, but must NOT be used where there are cats (see below).

Biguanides

Such as chlorhexidine are commonly used disinfectants, but are not active against viruses. Antiseptics such as 'Savlon' contain chlorhexidine and cetrimide.

Surface active agents (surfactants)

Come in four types, cationic, anionic, non-ionic and amphoteric. Of these, only cationic and amphoteric have appreciable disinfectant properties, but are not very effective against FCV or FPV, although they will kill FHV, FeLV and FIV efficiently. Examples are cetricimide (cationic, in 'Savlon').

Aldehydes

Two aldehydes, formaldehyde and glutaraldehyde are very important disinfectants with broad disinfectant properties.

Halogens

Sodium hypochlorite solution e.g. 'Chlorox', 'Domestos' is effective against viruses, but loses activity in heavily soiled situations.

What disinfectants are safe to use for cats?

Particular care must be taken in the choice of a disinfectant for use in a home with cats. Cats are generally fastidious creatures and their washing habits will leave them open to ingesting anything they get on their bodies. Cats have low levels of the liver enzyme called glucuronide transferase, which is responsible for detoxifying phenolic compounds. Consequently, phenolic disinfectants must **NEVER** be used where there are cats resident. The other disinfectants listed above are safe for cats provided that the instructions on the label are strictly observed. Do **NOT** use a stronger solution than recommended. The disinfectant should be rinsed away thoroughly before cats are allowed access to the disinfected area. Although individual disinfectant compounds can be used, better results are likely using proprietary mixtures such as 'Microcide', 'Virkon' or 'GPC-8' which have all been shown to be safe for cats and are effective against all of the common viruses.

Joondalup Central Veterinary Hospital