GK PRODUCTS UK

GK PRO THE EASY WAY TO REMOVE ALGAE AND ALL OTHER BACTERIAL STAINING FROM HARD SURFACES

GK PRODUCTS

WHY GK PRO?

GK PRO SUSTAINABLE CLEANING OF HARD SURFACES.

Your contractor has chosen to use GK Pro, a biocidal detergent which cleans and sanitizes all hard surfaces and is guaranteed not to harm, alter or disclour its apperance.

WHAT IS A BIOCIDE?

Biocides are chemical compounds used to eliminate biological growths and remove biofilm staining. Biocides work at a cellular level to eliminate the cause of visible growth on surfaces. Most biofilms are a mix of symbiotic bacteria species including algae, fungi, protozoa, yeasts and moulds.

GK Pro will kill 99·9% of bacterial growths, within minutes of contact, and will prevent moss re-colonisation.

SAFE WHEN DRY

As with all wet work keep children and animals away. GK Pro is safe when dry.

GK Pro remains active and inhibits re-growth of germinated spores for up to eighteen months after treatment - biofilms are relatively slow growing so visible signs of re-colonisation are unlikely to be seen for three years or more.

QUATERNARY AMMONIUM

Due to their toxic nature, only five main types of biocide compounds have been approved for use by the Health & Safety Executive.

- Quaternary ammonium compounds
- Amines
- Chlorophenols
- Phenoxides
- Metals (i.e., copper, zinc & cadmium)

GK Pro is a Quaternary ammonium compound (QAC), the most common, broad-spectrum, hard surface disinfectant used in the built environment for cleaning and sanitising.

We chose a QAC as our biocide because it delivers a predictable outcome, is stable in use, and allows for numerous methods of product delivery safely.

QACs are non-corrosive and are stable in use. They are neutralised by organic soil and tend to cling to surfaces.

Quaternary ammonium compounds have been in use since 1917 and are probably the best known cationic surface-active agents.

NOT AMMONIA

Ammonia is a term used for products mainly bought at the supermarket for cleaning ovens. Ammonia is a nitrogen atom connected to three hydrogen atoms (NH_3) and is corrosive, alkaline and highly volatile. It is an oxidizing agent. GK Pro does not contain ammonia or oxidising agents.

More than 200 different QAC compounds exist; GK Pro is Didecyldimethyl ammonium chloride (DDAC), sometimes referred to as dee-dak, it is a broad spectrum bactericidal and fungicide.

> **DDAC is often used as the anti-bac ingredient in many anti-bacterial supermarket household cleaners**

DDAC is used for many purposes, including in laundries as a disinfectant cleaner for linen and for sanitising use in hospitals and hotels.

It is employed for the sterilization of surgical instruments, as a disinfectant in re-circulating water systems, in agriculture as a milking parlour sanitiser, food handling surface cleaning and for sanitising animal shelters in the veterinary environment and, in our case, formulated for external surface disinfection.

SOLVENT FREE

GK Pro is free of solvents, bleaches and acids and does not have the chemical potential to interact with any substrate that isn't alive so cannot alter the appearance, harm or discolour any surface. It is self-neutralising so does not require rinsing off.

GK Pro is a cationic surfactant, it punctures bacteria cell walls and prevents the bacterial cell from replicating, in effect killing it.

A by-product of its production process means that it foams well when sprayed. This foam behaves in a similar way to washing up liquid, drawing up grease and grime especially when brushed vigorously.

CATIONIC SURFACTANTS

Cationic surfactants are positively charged, so molecules release their energy in the act of "electrocuting" a bacterial cell wall, this natural degrading mechanism gives GK Pro environmental acceptability.

GK Pro cannot migrate into drainage systems or the ground without being quickly deactivated due to the bacterial loadings within those environments.

GK Pro has a neutral pH level of 6, its structural formula is $C_{22}H_{48}ClN$

GK Pro is noted under the EU Biocides register and REACH Complies with REACH (the European Chemicals Agency) regulations

> Didecyldimethylammonium chloride
> EC number: 230-525-2
> CAS number: 7173-51-5

The "Interpretation of results" for Biodegradation in water screening tests found GK Pro to be: **readily biodegradable**

ECHA
EUROPEAN CHEMICALS AGENCY

HOW IT'S APPLIED

A conversation with your preferred GK Pro applicator will determine the right course of action for your property.

GK Pro should be applied during a dry, relatively wind free day with no likelihood of rain for at least four hours and in temperatures above 5°c.

A spray treatment with GK Pro works in conjunction with natural weather cycles of UV, to desiccate the now dead, bacterial staining while rain will remove the powdery residue.

This process, being weather driven, can take many weeks before your building will look "as new", but the process is predictable, and it will happen.

1

Applied to saturation GK Pro begins to work immediately, green algae will be dead within minutes as will Trentepohlia, a reddish or red/orange-coloured algae, the beta carotene dye will wash away after the first rain.

2

Filamentous fungi is seen as a thick black stain, often under coping or stone joints, the black is metabolised fungi acting as protection from UV light for the live algae and bacteria beneath. These stains can take many months or up to a year to disappear.

3

It may be considered expedient to vigorously brush-in the GK Pro dilution this will help soften old and crusty metabolites and remove as much grime as possible, allowing this to dry back will mean the grime just sits on the surface area treated – in this case it may be worth rinsing off and re-applying GK Pro when dry.

GK BLACK SPOT REMOVER

Your contractor may well offer additional alternatives which help speed the process; an example would be the use of GK Black Spot Remover, it can be applied prior to or after GK Pro application, or as a separate treatment .

GK Black Spot Remover, unlike GK Pro is not self-neutralising and should be rinsed away after it's done its work.

STEAM TREATMENT

If a more instant fix is required GK Pro can be included as part of a broader cleaning programme. Your contractor may recommend a steam clean of the surface.

If surfaces are sound, you may feel that they can be cleaned quickly with a proprietary pressure washer. This treatment will remove most grime but will not prevent re-colonisation of spores, a treatment with GK Pro will ensure you don't see vegetive re-growth visible for many years.

Many systems now exist to apply variable pressure super-heated water to surfaces with minimum risk of damaging substrates.

Modern silicone based thincoat and monocouche renders are especially sensitive to extreme heat and pressure. Regulated steam applications work extremely well in providing an instant, visible, clean however this does not always treat the cause of the problem i.e. germinated spores. These will require a spray treatment of GK Pro following evaporation of the super-heated water treatment.

Keep in mind that these speedier results come with additional labour and processes, and is likely to increase costs reflective of the increased work.

Suitable for use as a cleaner and to sanitise all elements within children play parks

SUBSEQUENT GK PRO TREATMENT

If your contractor has followed dilution and saturation rates for GK Pro any further treatment will be redundant, given that one molecule of GK Pro kills one cell of bacteria a second application cannot kill cells a second time.

REMAINING STAINS

Timber planter treated with GK Pro – wood rot is bacteria, GK Pro is a wood preservative

As GK Pro is guaranteed to treat 99·9% of bacterial growths on any surface it is reasonable to conclude that any stains which remain are unlikely to be bacterial in nature so a different course of action may be appropriate. White bloom efflorescence salt deposits, manganese dioxide efflorescence and iron oxide rust stains are typical and will require a different treatment.

COMMON BIOFILMS

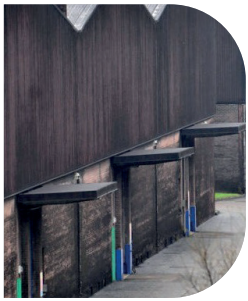
Image Courtesy Render Cleaning Co.

TRENTOPHILIA

One of many differing filamentous fungi growths on a rendered surface, for easy cleaning can benefit from a long dwell time alkaline treatment to soften the hard metabolised surface.

MOSSES

Not a biofilm, mosses are now classed as non-vascular Bryophyta. Traces of moss are easily removed by GK Pro.



WHISKY FUNGI

Angels Share or Whisky Fungi. This example is from the Diageo Bond in Bonnybridge, Baudoinia compniacensis a fungal spore which thrives on ethanol.

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HSE Number : 10766

QUESTIONS?

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