

VirkonS® and Virkon® Aquatic

500 gram is sufficient for 500.000 liter pond maintenance.

VirkonS® and Virkon® Aquatic is a pond disinfectant. It kills It kills pathogens, reduces the bacteria germs (CFU Colony forming units), fights viruses, bacteria and fungi. Koi are usually held in closed circuit systems to ensure good health, many of the skills and knowledge refer to the ability of the hobbyist, to create optimal filtering systems and thus an optimum water quality. In recent years, 2 very serious viral diseases have appeared, wich can lead to very serious loss in koi. These are called "Koi Herpes Virus (KHV) and" Spring Viraemia, both diseases among cyprinids. As with all viral diseases, there is no specific treatment available. Biosecurity measurements in combination with supportive measures, as applied in livestock branches, make sure that it does not spread. That is the maximum what can be achieved in this matter. Nowadays many owners of Koi and traders are much more aware of the danger. They feel the need for a form of Biosecurity as it is the only way to protect their often-valuable property and safeguard these problems. Biosecurity for Koi owners is based on the same principles as consumptional fishfarming. However, now with the added complication of the closed circuit filter, which can be a haven for all kinds of infectious diseases. These biofilters, however, will be damaged or die when disinfectants are used. To prevent loss of Koi and reduce any virus diseases, we have successfully developed adapted Biosecurity programs. These programs help improve the health and welfare of Koi and are even used in commercial farms.



VirkonS® and Virkon® Aquatic is what?

Several viruses, including 'Herpes' form serious threats to Koi owners. Many fish are carriers without showing any signs of this. When these are put in contact with susceptible fish, they can-especially if there is stress, release the virus into the water, leading to infections and high mortality. Independent evidence shows that Virkon is effective against most significant fish disease / pathogens. Recent research has shown that, if Virkon is continuously added to the water of fish farms, with a dosage of 2 grams per 1000 liters of water, Virkon dissolves in the water and shows only very low toxicity. This dose does not disinfect the water completely, such as concentrated disinfectants would, but purifies it and reduces availability of virus infections. It is better to speak of 'a form of waterconditioning' as of decontamination or disinfection. A very important feature for use in koi ponds of Virkon is that the level of pathogenic bacteria and some protozoan parasites in the water is greatly reduced. (The bacterial pressure). Studies in the USA with Koi have shown that continuous use of Virkon on carp in water at a dose of 8 grams per 1000 liters of water has no harmful effect on the health of the fish. Virkon is proven highly effective against herpes and Rhabdo viruses. Unlike fishfarms Koi are held in closed circuit systems with biological filters in which water circulates. This makes the continuous dosing with fresh water very difficult. Because different viruses, including "Herpes" are such a big potential problem, "DuPont's Animal Health Solutions searched for a solution in cooperation with Biosecurity. A system is developed, which under normal circumstances will give a good water condition at the Koi owner. All this without negative effect on the operation of biological filters or the concentration of Virkon reaching toxic levels.

Virkon is essentially a powerful complex formulated virus killing disinfectant for disinfection of aquatic equipment. It is now used effectively in many Koi ponds in Europe and USA to purify the water of different viruses, including 'herpes' at a dose of 8 grams per 1,000 liters of water. Because all Koi filters, pond systems

and water chemistry are different everywhere, this document may only be issued on a consultative basis.

The Purification of the water in koi ponds with Virkon Most koi ponds are equipped with a pump, a microbiological filter and a UV lamp. Before dosing UV and / or ozone components are to be switched off. After dosing, once Virkon is circulated in the pond water, UV and / or ozone may be turned back on. Make sure that the circulation pump(s) are working, while spreading Virkon.

Dosage / Usage: Mix Virkon[®] or Virkon[®] Aquatic in a bucket of water and spread it evenly over the pond / quarantine. Switch off any UV and / or ozone equipment. After dosing, once Virkon circulated in the pond water UV and / or Ozone may be turned back on. Preventive use: For a constant lowered bacterial pressure and continuously conditioned pondwater dose 1 gram on a 1000 liters of pond water weekly. It is very important to refresh 5-10% of the water volume prior to the weekly re-dosage. Preventive use Spring / Autumn: To reduce the bacterial pressure in a period of three weeks, dose 2 grams to 1000 liters of pond water weekly. It is very important to refresh 5-10% of the water volume prior to the weekly re-dosage.

Preventive use in placing new Koi in quarantine system: Stick to a quarantine period of several weeks. Dose 2 grams to 1000 liters of water at a frequency of 2 times per week. It is very important to refresh 5-10% of the water volume prior to the weekly re-dosage. Preventive use in pond after quarantine period: to reduce the bacterial pressure over a period of three weeks, dose 2 grams to 1000 liters of pond water weekly. It is very important to refresh 5-10% of the water volume prior to the weekly re-dosage. After this period, place the fish in the pond. For persistent viruses and bacteria: In 7 days consecutive, dose 5 gram to 1000 liters of pond water. At this treatment level, it is essential that you change 10% of the water volume weekly.

Doserings tabel Virkon[®] Aquatic					
Wanneer	Doelstelling	Dosering	Frequentie	Aantal doseringen	Voorwaarde
Wekelijks, preventief gebruik	Voor een constante lage bacteriedruk en continu geconditioneerd vijverwater.	1 gr per 1.000 liter water	Wekelijks	Iedere week	Het is belangrijk dat voorafgaand aan dosering 5-10% van het watervolume wordt ververs.
Voorjaar/Najaar, preventief gebruik	Voor het verlagen van de bacteriedruk.	2 gr per 1.000 liter water	Wekelijks	3 maal	Het is belangrijk dat voorafgaand aan dosering 5-10% van het watervolume wordt ververs.
Quarantaine, preventief gebruik in quarantainesysteem	Bij plaatsing van een (nieuwe) koi in Quarantaine systeem	2 gr per 1.000 liter water	2 maal per week	aantal weken, zo lang als nodig	Het is belangrijk dat voorafgaand aan dosering 5-10% van het watervolume wordt ververs.
Quarantaine, preventief gebruik in vijver	Gebbruik in de vijver na Quarantaine periode voor het verlagen van de bacteriedruk in de vijver. Na deze periode koi bijzetten in de vijver.	2 gr per 1.000 liter water	Wekelijks	aantal weken	Het is belangrijk dat voorafgaand aan dosering 5-10% van het watervolume wordt ververs.
Vijver/Quarantaine	Bij hardnekkige virussen en bacterien.	5 gr per 1.000 liter water	dagelijks	7 dagen	Op dit zuiveringsniveau is het essentieel dat voorafgaand aan dosering minstens 10% van het watervolume wordt ververs.

Routine: Dose as follows: add the desired amount of Virkon to 10 liters of pond water. Stir until the powder has dissolved and gradually add the solution to the pond water. A dispensing system can easily be made from a plastic bucket where at the bottom a hole is punctured. The solution is slowly released to the water. Make sure that the pumps are operating, so that distribution is optimal. Virkon contains a small amount of lipophilic surfactant, especially active against viruses of external enclosures. This substance can accumulate on the water surface and produce foam over time, especially if the required water changes are not enforced.

Warning: Irritating to skin, Risk of serious damage to eyes, Keep out of reach of children, Avoid contact with skin and eyes In case of contact with eyes, rinse immediately with plenty of water and seek medical advice, Wear suitable protective clothing, gloves and eye/face This material and its container must be disposed of as hazardous waste.



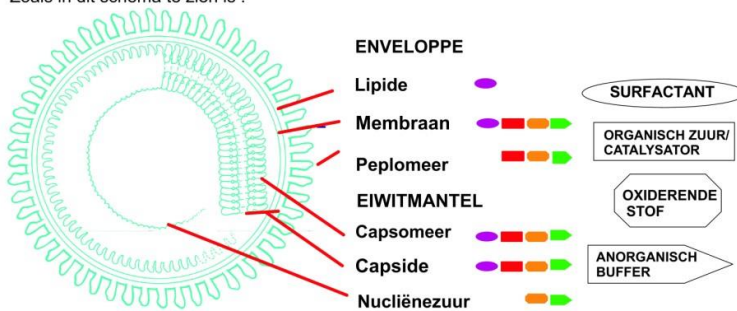
How does Virkon work: Virkon is a unique patented formulation based on a complex system where a number of oxidizing biocides are simultaneously effective on the same physical and chemical components of a pathogen. The addition of a surfactant increases the permeability, the presence of a buffer stabilizes the low pH and optimizes disinfection. Works with organic pollution and is temperature insensitive. The formulation as a powder makes it easy to transport (no ADR) and store.

Hoe Virkon S werkt :

Virkon S is een unieke gepatenteerde formulering gebaseerd op een complex oxiderend systeem waarin een aantal biocides gelijktijdig effectief zijn op de fysieke en chemische onderdelen van een ziekteverwekker. De toevoeging van een surfactant vergroot de doordringbaarheid, de aanwezigheid van een buffer stabiliseert de lage pH en optimaliseert de desinfectie. Werkt bij organische vervuiling en is temperatuur ongevoelig. De formulering als poeder maakt het makkelijk voor transport (geen ADR) en opslag.

- Optimale penetratie van de buitenste membraan, en verder.
- Oxidatie van de bestanddelen.

Zoals in dit schema te zien is :



Ingrediënten

SURFACTANT ■

Werking

- Zorgt voor het contact met het micro organisme.
- Maakt lipiden (vetten) oplosbaar.
- Denatureert sommige eiwitten in een zure omgeving.

ORGANISCHE ZUREN / KATALYSATOREN ■

- Veroorzaken van een lage pH zonder corrosief effect.
- Controleerd oxiderende activiteit.
- Heeft een selectieve virucide werking.

OXIDERENDE STOF ■

- Oxidatie van glycoproteïne / poly peptide / nucleïnezuur.
- Cytolyse van proteïne.
- Onder zure omstandigheden optimaliseert stabiliteit en oxidatieproces.

BUFFER, ANORGANISCH ■

- Behoud de lage pH , welke de biocide werking optimaliseert.
- Vergroot de resistentie bij hard water en organische vervuiling.

Suspicious Circumstances When there is a suspicion of infection of the Koi Herpes Virus (KHV) or an infection of "Spring Viraemia Virus" in a population Koi, the obviously affected fish need to be removed immediately. A specialist vet must be consulted at this stage. The water of the remaining healthy fish should immediately be dosed 5 grams Virkon per 1.000 liters of water to purify it (see dosage schedule). At this treatment level it is essential that at least 10% of the water is changed weekly prior to the next dosage. Great care and point of attention is that stress with the fish must be absolutely avoided. If these fish seem to stay healthy, water treatment with Virkon can be reduced on both dosage and frequency eventually to zero. Clearly, however, diseased fish should be removed as described above. REMEMBER that Virkon does not treat the fish, IT IS NOT MEDICINE! It purifies the water only to reduce the infectious virus levels in the water. Therefore, there is no point in using a plungebath to treat fish with Virkon.

Effects on biological filters Virkon® will, by its nature, kill bacteria. So, this will have an effect on biological filters. However, at a routine weekly maintenance dose, provided that 5-10% of pond water is changed before a new dose added, it should not affect the effectiveness of the biological filter. When a higher dose will be used and / or a higher frequency of dosing, some foam may develop. This is not dangerous. The lipophilic surfactant (hydrophobic) that causes this is essential as part of the antiviral activity. When the foam occurs and this is perceived as a problem, a lower dose may be used accompanied by increased water changes until there is no foam on the water. Given the enormous variety of existing Koi filter and pondsystems, water chemistry, we cannot be held responsible for any effect on fish or filter. Users (Koi keepers) have experienced that a good indicator of the use of Virkon at the right level, the water in the pond shows a clean and slightly crystalline appearance. This can be a useful indicator but this effect does not necessarily occur in every pond system. Unfortunately, due to the very low recommended / concentrations of Virkon, we have not yet been able to develop an accurate testkit for measuring concentrations in water. But we keep working on the development. It is possible to carry out a water test through your dealer, which gives a good indication of the level of bacteria in your pond. For more information, consult the website of the supplier and / or consult your dealer.

WARNING. Despite the wide experience of safe use of Virkon Aquatic, by the great diversity of pond systems, no responsibility can be taken for any loss related to the use of Virkon. Please note that a disease as "Spring Viraemia of Carp" or "KHV" must be reported, either to your vet or an authority in many countries. Even if you only have suspicions that this disease appears in a pond.

Denne information findes på Dansk i en forkortet udgave.

Den kan hentes som PDF-fil her: www.koimad.dk/files/VirkonS-DK.pdf

Du kan også scanne QR-koden for at hente filen.

