



SANOSIL

DISINFECTANTS FOR LIFE 



Sanosil C

Disinfectant concentrate for cooling water treatment

www.sanosil.com

Sanosil C

Disinfectant concentrate for
water disinfection



**...ideal for process-water and cooling-water treatment in
open, closed and semi-open cooling systems.**

- ✔ Effective water disinfection with a long-lasting effect
- ✔ Highly effective against biofilms, legionella and bacteria causing corrosion
- ✔ Odourless and tasteless in treated water
- ✔ Very high yield – effective from 0.02 ml/l
- ✔ No chlorine/chlorine compounds or QAV, bromine or isothiazolinones
- ✔ Does not develop AOX / trihalomethanes
- ✔ With catalytically enhanced hydrogen peroxide
- ✔ The hydrogen peroxide completely (100%) decomposes into water and oxygen
- ✔ Shelf life of over 2 years
- ✔ High-quality product made in Switzerland



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Product description

Sanosil C is a highly concentrated disinfectant for the treatment of process and cooling water. Hydrogen peroxide is used as the active ingredient. It is also stabilised and its disinfecting effect is catalytically enhanced several times over by adding a minimal amount of silver ions. This process can increase the disinfection effect by up to 800% compared to native hydrogen peroxide. After application, the hydrogen peroxide contained in Sanosil C completely decomposes into water and oxygen. The minimal amount of silver remaining after the peroxide has decomposed delays the multiplication of germs and demonstrates additional preservative properties, especially in water systems.

Unlike Sanosil S015 which is less concentrated, Sanosil C is a hazardous substance. The safety, storage and transport regulations must be observed.



Sanosil C



Overview

PRODUCT TYPE

Concentrated (hazardous substance)

SUITABILITY

Biocide for initial and maintenance treatment of water-bearing parts in open, closed and semi-open cooling systems. Controlling wet germs/biofilms, bacterial corrosion as well as legionella.

SHELF LIFE

2 years

CONTAINS

50g/100g of hydrogen peroxide,
0.05g/100g of silver



Waterdisinfection and VBNC

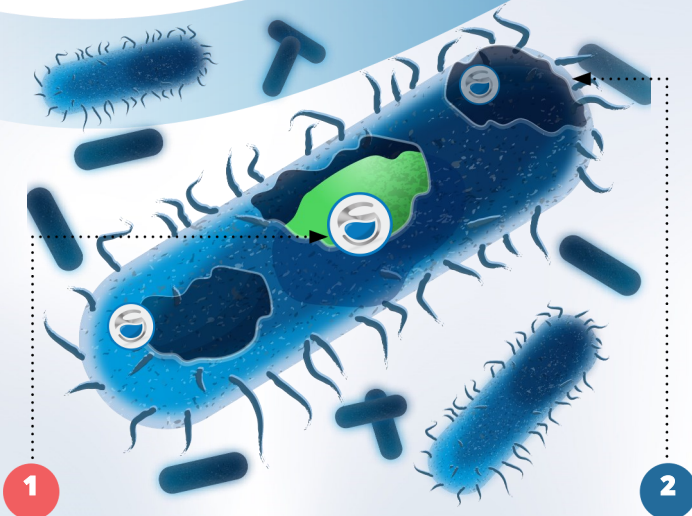
Note: In the case of serious biofilm growth, disinfection with conventional products is usually useless because the biofilms (slimy deposits of bacteria, fungi and protozoa) cannot be reliably removed.

In addition, the bacteria are often in a "VBNC" state. (Viable But Not Culturable). This skews performance controls and offers a false sense of security.

In contrast, Sanosil can effectively eliminate both biofilms and VBNC germs.

How it works:

- 1** The oxygen ($^1\text{O}_2/\text{O}_2$) released by the hydrogen peroxide attacks the cell walls of the microorganisms. The process of oxidation (cold combustion) denatures and destroys them.
- 2** The effect is supported by silver ions, which enhance the effect of the peroxide in a catalytic process. They also block the metabolism (where applicable) and the ability of the germs to multiply.



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Microbiological problem areas in cooling towers



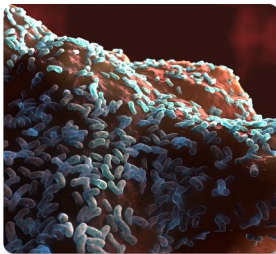
Biofilms

... are slimy coatings that quickly form on all surfaces that come into contact with water in cooling systems unless biocides are added. In addition to the fact that biofilms are a breeding ground for various potential pathogens (see below), biofilms also reduce the efficiency of heat exchangers by up to 30%. This results in an unnecessary increase in energy consumption.



Microbial corrosion

Some bacteria, such as sulphate-reducing bacteria, can break down sulphate SO₂ into hydrogen sulphide, especially when they are "buried" under layers of mud and where oxygen is scarce. This not only reeks of rotten eggs, but is also very corrosive and quickly destroys ferrous materials. (Similar to dental decay)



Pathogenic bacteria

Germs, such as Legionella or Pseudomonas multiply exponentially in the warm water of a cooling tower. If they are not actively controlled by biocides, they may become airborne in aerosols and put human and animal health at risk.

All of these problems can be reliably controlled by using Sanosil C.



Sanosil C



Effectiveness

STANDARDS / EXPOSURE TIMES

LEGIONAL

Legionella control EN13623:
1 ml/l of Sanosil C
> Log 5 (- 99.999%) in 60 minutes

EN13623:
0.07ml/l Super25
> Log 5 (- 99.999%) in 15 hours

Using Sanosil C

Sanosil C is generally used in two different ways: shock treatment or maintenance treatment. An increased dose of disinfectant is added sporadically to the contaminated system during a **shock disinfection procedure**. This is carried out for acute eradication of germs and the removal of biofilms.

Maintenance disinfection involves the continuous application of small doses of disinfectant. The objective here is to prevent or inhibit the formation of new germs and biofilms.

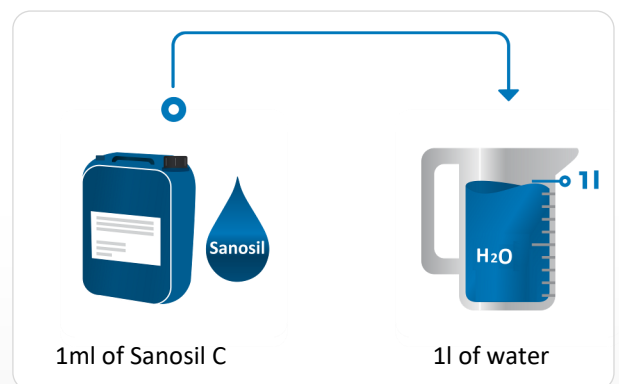
Dosage for shock disinfection:

1000 ppm = 1 ml of Sanosil C per l of water.

It is either added manually directly into the compensating tank or to the feed water using a dosing pump and injection valve.

Note: Sanosil C is highly effective against biofilms. If a system is already seriously contaminated with biofilm, the dosage should be carried out gradually and continuously increased. The best solution is to add approx. 0.1 ml of Sanosil Initial*.

Otherwise, the dead/detached biomass will quickly clog the filter systems.



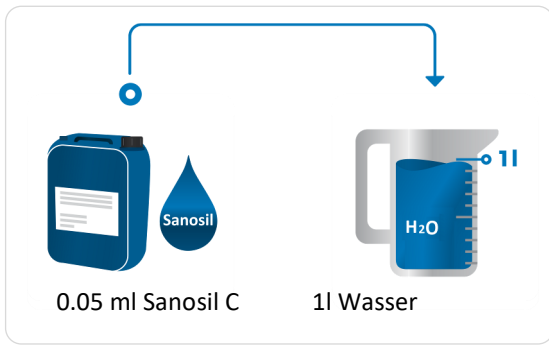
* Sanosil Corfit Initial is a liquid dispersant and enhances the effect of Sanosil C, especially on thick biofilms. The product description is available separately.



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Dosage for maintenance disinfection:

30-50 ppm = **0.03-0.05 ml of Sanosil C per l of water.**

It is ideally added using a **proportional dosing pump** injection valve directly into the feed water line (see diagram).

The key factor is the Sanosil C content in the compensating tank or in the circuit. It should always be at least 20 ppm where possible.

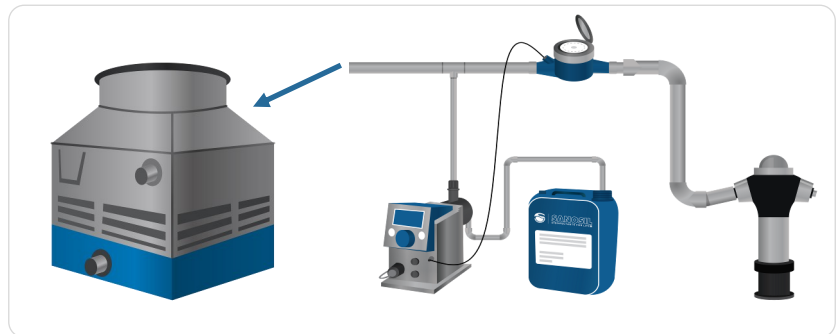
If it is added **manually** or using a timer-controlled dosing pump, the required dosage is approx. 100 ppm = 0.1 ml of **Sanosil C / l of water every 2-3 days**, depending on the breakdown rate.

Useful tools:

Proportional dosing pump:

The best method for installing a proportional dosing system is using an injection valve in the feed water line.

A flow meter with a signal transmitter ensures that the pump is controlled and the correct dosage of Sanosil C is applied depending on the required quantity of water.



Sanostrips 200 indicator measuring strips

Sanostrips 200 are ideal for measuring the Sanosil C content in water. They react by turning a different shade of blue depending on the product concentration.

Sanostrips 200 offer an accuracy of approx. 10 ppm and deliver the result within just a few seconds.

(An Xpert IDip measuring stick is ideal for more accurate measurements and determining other water parameters).

Controlling the microorganism content

Hygicult TPC dipslides are designed to monitor the success of the biocide treatment process. Ready-to-use bacterial culture media that provide information on the content of **aerobic, mesophilic bacteria** (such as Pseudomonas, Klebsiella and other bacterial species that form biofilms) within 24 hours through immersion and incubation, even without a laboratory. Comparative measurements can be used to measure increased or decreased population levels.

For **Legionella**, customised **test kits** are ideal for controlling cooling water. They have a sensitivity of 1000 CFU/l and can be used to reliably detect Legionella.



Other cooling-circuit products:

Sanosil AG offers a good range of other products for servicing your cooling circuit, such as pickling, passivating, corrosion protection, dispersing and hardness stabilising agents, which are the perfect complement to Sanosil C. The documentation is available separately.



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Use biocides with caution. Always read the label and product information before use.

Our application notes, both in written and verbal form, are based on extensive testing. We provide advice to the best of our current knowledge, but without any obligation insofar as the application and storage are beyond our direct control. Product descriptions or information about the properties of the preparations do not contain any statements concerning liability for any damage.



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