Is your pool water **over-stabilised?**

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Expert since 1928

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That old **story** sounds familiar... Does it remind you of anything?

Summer is in full swing: you opened your pool in April or May and you have been enjoying it ever since with your children and your friends...

Water treatment is no longer a problem for you: one chlorine tablet per week, shock treatment every fortnight, a little clarifier...

And yet... in June or July, your pool turns green and algae start to develop! You shock the pool, add algaecide... nothing works.

You go to your specialist retailer for advice: **there's no other solution than to empty the water from your pool!** The children are impatient, your friends are disappointed... no dips in the pool this weekend!

But what happened?

The water in your pool is **over-stabilised!**

What is *stabilised chlorine?*

Chlorine remains the reference disinfectant to maintain pool water under healthy bathing conditions and prevent contaminations. With disinfectant and oxidation properties, it fights bacteria, viruses, fungi and the proliferation of algae to offer healthy pool water.

There are **2 types of chlorine** to treat your pool water:

- Stabilised chlorine
- Non-stabilised chlorine

"Classic" chlorine that you can buy today (tablets, pastilles, granules) is stabilised chlorine.

Stabilised chlorine is chlorine that releases stabiliser (cyanuric acid). This stabiliser protects the chlorine from the destructive effects of the sun's UV rays. Therefore, if your pool is outside your house, stabilised chlorine will last longer than non-stabilised chlorine (with no cyanuric acid).

Stabilised chlorine is not all about advantages..

Stabilised chlorine has one major inconvenience: **the stabiliser accumulates in the water** in your pool as the weeks go by.

If you use non-stabilised chlorine (chlorine without stabiliser), you can buy and dose your stabiliser separately, in relation to your needs. That way, you only consume the amount of stabiliser that your pool requires!

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DID YOU KNOW?

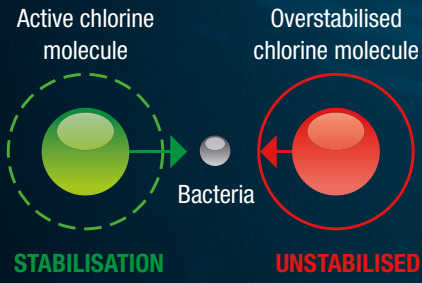
A "classic" 200g **stabilised chlorine tablet** with slow dissolution releases approximately **100 g of cyanuric acid** (stabiliser) into the pool.

A 50 m³ swimming pool treated with 200g of stabilised chlorine is over-stabilised after 5 months!

What is *over-stabilisation?*

In the middle of the season, when you have used a certain amount of stabilised chlorine, there will be an excessive amount of stabiliser (cyanuric acid) in the water. The disinfectant action of the molecules of chlorine is slowed down or even “blocked”, thereby allowing the proliferation of micro-organisms; the water becomes green and goes “bad”: this phenomenon is **over-stabilisation**.

If you add stabilised chlorine (shock), you aggravate the problem instead of resolving it, because you increase the amount of stabiliser even more (the stabiliser does not disappear, but remains in the water).



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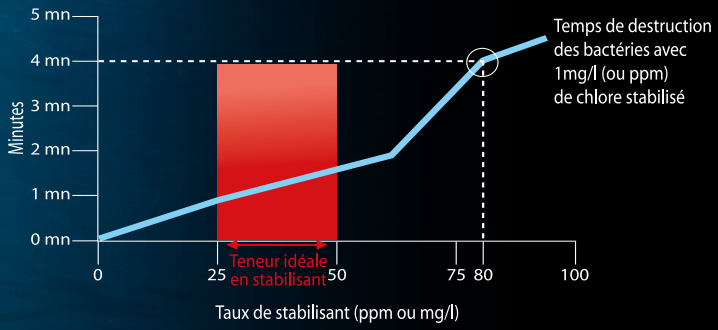
DID YOU KNOW?

The more you add stabilised chlorine to the water in your pool, the more stabiliser you are adding! The disinfectant action of the chlorine becomes blocked and your water is no longer disinfected! This is the start of over-stabilisation.

Cyanuric acid is responsible for protecting the disinfectant from destruction by the sun's UV rays, but if excessively concentrated, it adversely affects the effectiveness of the disinfectant.

Japanese researchers* have studied **the effect of cyanuric acid on virus destruction times** with a constant dose of 1 ppm (1 mg/litre) of chlorine and pH of 7.0.

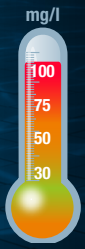
Stabiliser and destruction of bacteria*



In the absence of cyanuric acid, the chlorine kills 99.9% of viruses in the water **in less than 30 seconds**.

With the presence of 80 ppm (80 mg/litre) of cyanuric acid, the destruction time goes up to more than 4 minutes!
The phenomenon is aggravated if the pH is incorrectly adjusted.

THE LEVEL OF STABILISER SHOULD BE BETWEEN 30 AND 50 ppm and NEVER EXCEED 80 ppm.



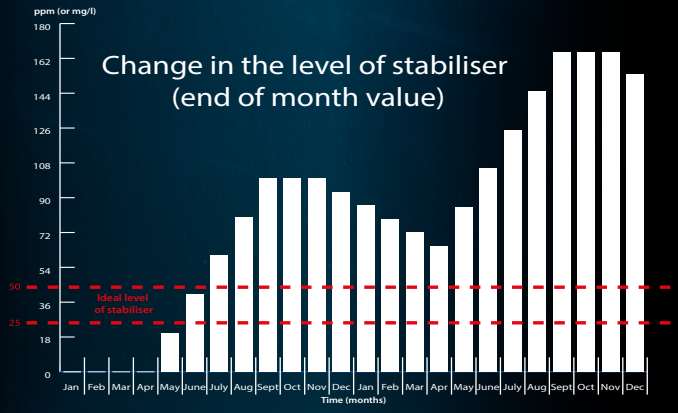
Overstabilised: chlorine activity is "blocked"
"Acceptable" overstabilisation
"Ideal" protection area
Destruction of chlorine by UVs

* Yamashita, T., Sakae, K., Ishihara, Y., Inoue, H., and Isomura, S. 1985. Influence of cyanuric acid on viricidal effect of chlorine and the comparative study in actual swimming pool waters. Kansenshogaku Zasshi, 3 March 1988, 62(3), 200-205.

To better understand how stabiliser evolves in the pool...

Here is a diagram of how the stabiliser evolves over 2 years in line with the following treatment conditions:

- Pool opening in May.
- Fresh water the first year (put into service on May 1st).
- Period of use of the pool: 1 May to 30 September (22 weeks).
- Winterised in early December in the first and second year (1/3 of the pool is drained).
- Pool fills with rain water during the winter (outdoor pool).
- Treatment with a 200g tablet on the basis of 1 tablet per 25 m^3 every week.
- Three pool shocks per season with stabilised chlorine.
- 1/3 fresh water brought in through filter backwash.



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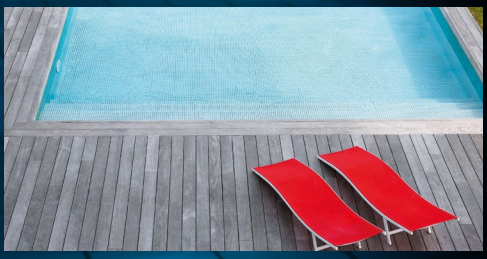
DID YOU KNOW?

When water evaporates, the stabiliser remains in the pool. In this case, adding clean water will not reduce the concentration.
Partial or total pool draining is required.



To avoid any risk of **over-stabilisation,**
we recommend using the **the red range by hth®**

For **SHOCK** disinfection

FIXING GREEN OR CLOUDY WATER

If this is the case, it is best to act fast!

The action of **hth® SHOCK®** powder is **instant,** thanks to its powder format that allows it to dissolve very quickly. The product can be added directly to the pool or to the skimmer, with the filter in operation in both cases.
It is particularly **powerful**: with **75% of active chlorine, it is the most concentrated calcium hypochlorite available on the market.**

hth® SHOCK® is also recommended when reopening and winterising your swimming pool.

PRACTICAL ADVICE

By separating chlorine from stabiliser, **hth®** offers you the means to dose the stabiliser in relation to your needs, and therefore **to control your pool disinfection**.

To avoid any risk of **over-stabilisation,**
we recommend using the **the red range by hth®**

For **REGULAR** disinfection

To avoid problems of over-stabilisation, **hth®** has developed as-**pecific range of products using non-stabilised chlorine** (calcium hypochlorite) designed to destroy bacteria, viruses, fungus and algae in pool water.

hth® ADVANCED : THE 1ST CALCIUM HYPOCHLORITE TABLET WITH SLOW RELEASE

- Very efficient product: formulated from **hth®** SHOCK® powder
- Slow release: between 5 and 7 days
- Octagonal blue tablet: limited risk of mixing with the isocyanurates.
- No plastic wrap to throw away

1 tablet = 20 to 25 m³ = 7 days

hth® STICK® :
plastic-wrapped 300 g stick

1 stick = 20 m³ = 5 days

hth® STABILIZER

hth® also offers a separately packaged stabilising product (**hth®** STABILIZER) for outdoor pools.

AT THE START OF EVERY SEASON, DO NOT HESISTATE TO ASK YOUR POOL SPECIALIST RETAILER FOR A FULL ANALYSIS OF YOUR WATER TO RECEIVE A PERSONALISED PRESCRIPTION.

EXERCISE PRECAUTION WHEN USING CHEMICAL POOL TREATMENTS.
BEFORE USING, READ THE LABEL AND INFORMATION ABOUT THE PRODUCT ON HTH-POOL.COM

Expert since 1928

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In short, how can you avoid over-stabilisation?

• By regularly controlling the level of stabiliser in the water.

We recommend maintaining a level of stabiliser between 30 and 50 ppm*.

* Standard recommended by the Regional Health Agency for commercial pools

• By using non-stabilised chlorine

If your pool is indoors, stabiliser is not necessary.
If you pool is outdoors, we recommend only adding the required dose of stabiliser.

The solution to your over-stabilisation problem:
the red range by hth®

To avoid problems with over-stabilisation,
hth® has developed a **specific range of products made with non-stabilised chlorine** (calcium hypochlorite).

Any questions about treating your water?
Contact our Customer Service:

+44 (0) 1924 792909

Expert since 1928

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How to recognise an over-stabilised pool

The water Milky and turns green because the algae are developing (the chlorine is no longer destroying them).

Note that your water no longer has disinfectant properties. In other words, the viruses and fungi in the water are no longer correctly destroyed and they develop. **In short, you certainly wouldn't want your children to swim in that pool!**

! WHAT CAN BE DONE TO FIX OVER-STABILISED WATER?

The only solution is to get rid of the excessive amount of stabiliser **by draining a large portion of the pool water** (sometimes all of the water) and by adding fresh water. This solution is a constraint during pool season and it is also costly.

It is preferable to use **non-stabilised chlorine by** *hth*® (red range) in a preventive manner in order to avoid over-stabilisation of your water.

All of this information can be found on

hth-pool.com