



How Safe is Your Pool?

The Grander Freshwater Pool Difference

Grander Freshwater Pools

Our Grander Freshwater Pools use less than 20% of the Chlorine than a salt water pool

Grander pools use less than 20% of the Chlorine of a salt water pool, but the good news is that 82% of the Chlorine that a Grander Freshwater Pool uses is deemed not harmful.

This reduces the dangerous effect of Chlorine by 96.4%.

Most pools rely on Chlorine, saltwater chlorinator pools use the most, then Chlorine pools, followed by other systems using it as a back-up.

Mutagenicity, (DNA damaging effects), in drinking and pool water becomes a problem when chlorinated water and organic compounds bond together.

Grander Freshwater Pools is the only system that inhibits bonding between Chlorine and organic compounds.

What about other chemicals that most pool treatments use? Hydrochloric Acid, Cyanuric Acid (carcinogenic), Granulated Chlorine etc.

So if you have a Grander Freshwater Pool, enjoy safe in the knowledge you have the safest and best pool available.

The Graph below of Chlorine exposure rates may help you understand the importance of Grander Freshwater Pools.

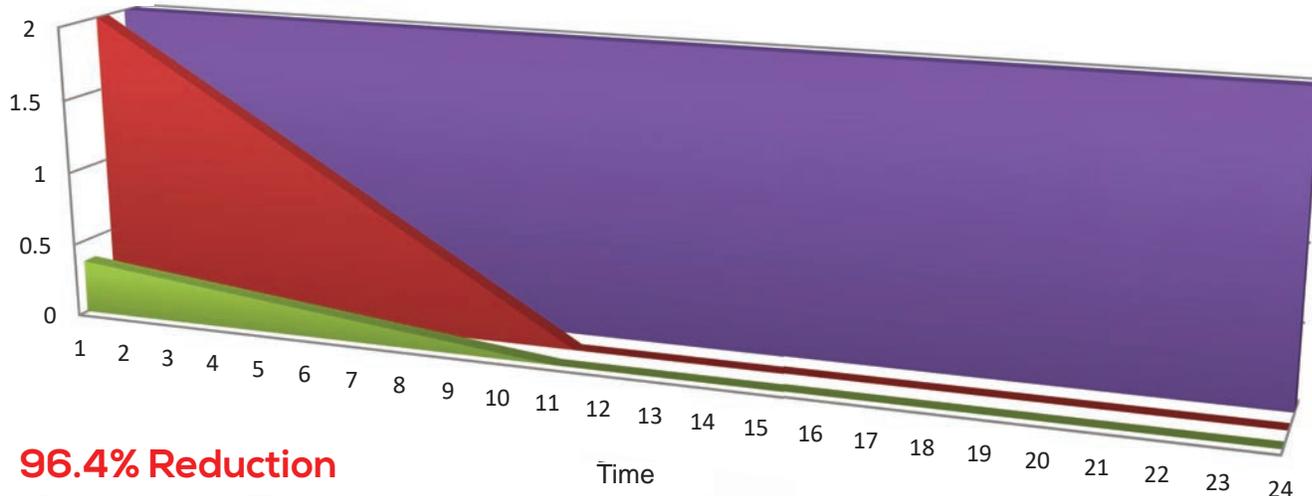
CHLORINE EXPOSURE RATES GRANDER POOLS VERSUS SALT WATER POOLS

■ ACTUAL Grander Exposure rates

■ DOSE Grander Pool

■ DOSE Salt Pool

CHLORINE in ppm



**96.4% Reduction
in Dangerous Effect**

How Safe is Your Pool?



With ever increasing childhood allergies...

How safe is Chlorine that you add to your pool?
Don't be fooled if you have a 'Salt' pool as these are the biggest users of Chlorine by a country mile compared to other water treatments.

When Chlorinated water and organic substances are exposed to each other this results in the formation of organo-chlorine compounds which are mutagenic:

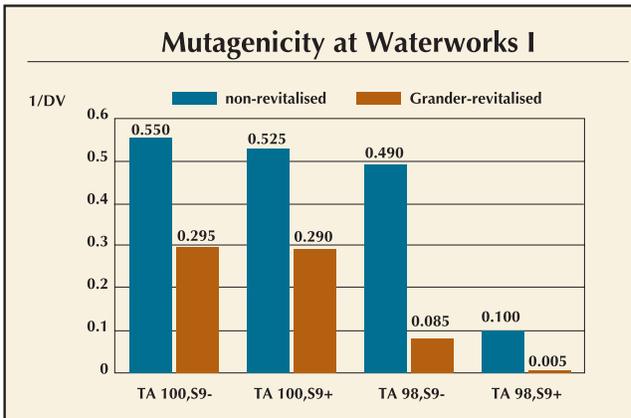
For a long time here at Grander Freshwater Pools we have realised why our customers didn't smell or taste Chlorine, even at high levels.

We knew why we could not smell the Chlorine in our showers, we understand that people suffering from itchiness from shower and pool water no longer experienced irritation.

**GOOGLE CHLORINE MUTAGENICITY
AND BE PREPARED TO BE SHOCKED**

NOW WE WANT YOU TO KNOW WHY After many years of research we can share a very important document produced by the Russian Academy of Natural Sciences.

We urge you to read it.



Grander Technology can reduce the mutagenicity of organo-chloride compounds in Moscow's chlorinated drinking water by as much as 70% of the initial value. The Ames test provides the evidence.

In the summer of 1997, Prof. Rachmanin prepared an extensive research programme which included physical, chemical, microbiological and also medical tests. He wanted to establish that Grander Technology had no negative effects on the health of the general public. These tests proved the health and environmental safety of the Grander Technology. In the summer of 1998, the Russian Ministry for Health granted unrestricted permission for the use of Grander Technology in Russia.

In order to establish how Grander Technology works and what its effects on water actually are, Dr. Kondratov, an expert in the study of water structure, was asked to participate in further tests. The results of the research activities of the Rachmanin/Kondratov scientific duo have since been registered world-wide as scientific discoveries. They are the reason why Johann Grander has been awarded the Silver Medal of Honour of the Russian Academy of Natural Sciences, and it is assumed that this is the first stage of a quantum leap in water research.

The basic statement the Russians are making is that the 20th century was dedicated mainly to the exploration of water chemistry, whereas the 21st century will belong to the neglected physics of water. The results of these tests are not without significance. The investiga-

tions focused on the differences between water revitalised according to Grander and non-revitalised water.

The most important results can be summarised in three points:

Grander Technology reduces radioactivity in drinking water. In many parts of the earth the environmental conditions are such that there is increased radioactivity in groundwater and food grown in these areas. Here Grander Technology opens new solution possibilities – this is the subject for further research work.

Photo: Die Fotografen



Prof. Vladimir Kondratov is considered to be one of the leading scientists in the field of water-structure research.

The Grander method also improves the microbiological condition of the water; the self-cleansing capacity of revitalised water is noticeably increased, and bacterial cultures diminish much faster in water revitalised according to Grander than in non-revitalised water. Extensive microbiological analyses with many different micro-organisms confirm this. Test series were run with *Salmonella*, coliform bacteria, *Klebsiella*, *Legionella*, *Escherichia coli* (see diagram) etc.

It should also be emphasised that Grander Technology reduces the mutagenicity of drinking water. When chlorinated water and organic substances are exposed to each other, this results in the formation of organo-chloride compounds, which are for the most part mutagenic. This is also the most common way in which mutagenic substances are created.

The topic of the mutagenicity of chlorinated drinking water and the problem created by these by-products has only recently been considered and as yet has no solution. Chlorinated organic compounds are very difficult to break down, which is why these substances are so abundant in nature. The so-called Ames test was used to examine Moscow tap water from two different waterworks, both of which use chlorinated surface water.

The result shows that it was possible to significantly reduce the mutagenicity through the application of the Grander Technology – by as much as a reduction factor of 70%. What is all the more remarkable is that the water was not filtered; 150-200 litres of unfiltered water was run through a Grander Revitalisation unit. This



Photo: private

Engineer Dr. Horst Felsch:
In 1993 he began systematic research on Grander Technology and the many applications for its use.

reduction of the mutagenicity of the organo-chloride compounds has many possible future applications.

These impressive research results are one of the main reasons why the two Russian scientists Rachmanin and Kondratov (the latter gives the impression of being very modest and uncomplicated but is considered by his peers to be Russia's "Einstein") travel to Jochberg at least once a year in a sort of pilgrimage, in order to discuss, with Johann Grander and his in-house research team, further test possibilities, in as yet unexplored fields of application.

The reduction in the activity of radionuclides through the use of Grander Technology was more than 20%. The different test results using the flexible apparatus and the revitalisation rod can be explained by the varying exposure times. The water revitalised using the flexible apparatus was exposed to it for ten seconds, while the revitalisation rod was left in the water for 24 hours before the measurements were taken.

