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## Loic Le RIBAULT

### Organo-Silicon Therapy

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### **The Persecution and Resistance of Loic Le Ribault**

*The creation of a treatment for arthritis and the persecution of its author, France's foremost forensic scientist*

**by Martin J Walker**



**AN EARLY PROMISE  
FROM POLLUTANT TO ESSENTIAL NUTRIENT  
A MAN ON THE MOON  
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REGULATING MOLECULES  
GOING TO ANTIGUA  
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THE MEANING OF A STORY**

In 1985 while working as an independent forensic scientist for the French judiciary, Le Ribault joined forces with a highly acclaimed research chemist, Professor Norbert Duffaut from the University of Bordeaux. Between them, they hoped to develop their common work on organic silica, a substance which they believed had a wide range of therapeutic uses.

After twelve years work together, perhaps as a consequence of their work on the new therapy, Duffaut was dead, poisoned in suspicious circumstances and Le Ribault himself had suffered two months solitary confinement in a French jail."

"I shall continue my actions of distributing OS5 despite all the opposition. I do it for all those patients for whom I have the opportunity and honour of caring, those who were abandoned by modern medicine which was unable to offer them a cure or who found the orthodox treatments offered worse than the illness itself."

Loic Le Ribault, France's most renowned forensic scientist (1) and specialist in the study of silica, holds court in the dingy surroundings of the Flying Fish pub on the harbour in St Helier, Jersey. With a Gaelic shrug and in faltering English, he explains how the pub has become his home and his office.

He knows almost everyone in the bar, as he knows the bus drivers, the local shopkeepers and many of the harbours boat owners. He knows them, he says, 'because I have treated them, for this illness and that illness. Many of them I have cured with OS5'.

Sitting in the Flying Fish, drinking bitter and smoking the occasional Galloises, Le Ribault does not seem like a man who has been hounded out of France because he discovered and distributed a treatment for arthritis and a number of other common ailments.

In 1985 while working as an independent forensic scientist for the French judiciary, Le Ribault joined forces with a highly acclaimed research chemist, Professor Norbert Duffaut from the University of Bordeaux. Between them, they hoped to develop their common work on organic silica, a substance which they believed had a wide range of therapeutic uses.

After twelve years work together, perhaps as a consequence of their work on the new therapy, Duffaut was dead, poisoned in suspicious circumstances and Le Ribault himself had suffered two months solitary confinement in a French jail.

Today, Le Ribault is on his own, forced to ground in Jersey, a stateless alien on the run from the French police. His life turned into a desperate adventure, Le Ribault is paying the price for falling out with scientific orthodoxy, medical professionals and the French establishment.

Loic Le Ribault appears quintessentially French. He is phlegmatic and when he is not laughing gently and self-deprecatingly, his rubbery face deflates with the world-weary sadness of a circus clown. In well-worn casual clothes, with white wings of cotton wool hair floating around the bald dome of his head, his lack of fluent English, for which he constantly apologises, makes him appear wise but forgetful. Listening to him, you have to keep reminding yourself that over the last five years, he has lost everything but his mind.

## **AN EARLY PROMISE**

Thirty years ago, still in his twenties, Loic Le Ribault was a precocious young academic, having ground-breaking papers published by the French Academy of Science. At twenty-four, in 1971, he discovered a new function for the electron scanning microscope (ESM) which enabled him to discern the history of grains of sand.

Previously the electron scanning microscope capable at that time of 30,000 magnification had been used in biology and medicine, no one had imagined that it might be used for looking at rocks. Under the electron scanning microscope, Le Ribault found that he could discern the entire history of a grain of sand; where and when it originated, how it was formed, where and how it had been transported, where it had next lodged, how long it had stayed in that place. By the time he had finished his research, he had devised a list of two hundred and fifty criteria by which the history of sand might be diagnosed. The field was later to become so specialised that it would take three years to train a scientist in the technical knowledge to carry out these tests. (2)

Le Ribault's approach to analysis and detection of sand, had some academic and commercial uses but was most clearly an invaluable aid to policing. While still working at university, he was approached by the FBI and became a forensic consultant for them.

Despite this early discovery of a new use for the ESM, Le Ribault found it hard to get work in

the universities after he qualified and in 1982, he set up his own national laboratory for electron microscopy, called CARME and quickly became France's most noted forensic scientist. CARME became the principal laboratory used by the police service, the judiciary and the French Home Office.

Le Ribault is the first to admit that he is not a diplomat, even that he is anarchistic in his view of society. Constant struggles between himself and the French Home Office, seemingly about hegemony, did not endear him to servants of the State. At the height of CARME's work, Le Ribault was a nationally recognised figure with a high public profile, working and commenting on some of France's most intriguing criminal, military and political cases. Always a populist, he was much sought after by television, radio and newspapers as well as the French political parties.

'When I had CARME, every week I had articles in the press and on TV, and every French party asked me to be involved with them. On TV and in newspapers, I made information accessible, very often I did lectures in Primary and secondary schools as well as universities'.

Despite a brilliant record as an expert witness, the French Home Office and the police service seemed to have been wary of Le Ribault's cavalier genius as well as his tacit control of Home Office forensics. He says that the French State frequently referred to him as their scientist and to his laboratory as that of the Home Office.

Le Ribault's career as France's most eminent forensic scientist came to a sudden end in 1991, when the Home Office decided to integrate their own regional forensic laboratories equipped with electron microscopes. In the following debacle, Le Ribault lost his laboratory, which had employed thirty odd people, and his home which he had mortgaged as surety for the laboratory.

A resilient character, Le Ribault adapted to his new life, lived in the family home and returned to his first love, silica. Back in 1972, while working with sand on the ESM he had made an interesting discovery, a layer of water-soluble amorphous silica which contained micro-organisms covered the surface of some sand grains. He found that these micro organism and the secretions which they left on the sand contained organic silica. Organic silica differs from mineral silica which makes up the majority of the earth's crust, in that it contains Carbon and can be readily assimilated by animals.

By 1975, Le Ribault had created a process by which it was possible to recover these deposits from the surface of the sand. All of this work was accepted by the scientific establishment and his papers published by the French Academy of Science.

There had been constant research into organic silica over the previous fifty years and some of this research had raised questions about its therapeutic use. In his early work, as a geologist, Le Ribault had not been following the research into silica and health. But in the early eighties, while working on the organic silica deposits he had found, he immersed his hands in organic silica solution and found that his psoriasis was cured. From then on, Le Ribault's work became focused in the therapeutic properties of silica.

## **FROM POLLUTANT TO ESSENTIAL NUTRIENT**

Silica is an essential element of living matter. Found in body tissue, the thymus gland, the vascular lining, the adrenal glands, the liver, the spleen, the pancreas and in considerable quantity in hair. With age the body loses its store of organic silica and is unable to replace it from sources outside the body which are predominantly mineral silica.

It was originally thought that silica was at worst an environmental contaminant of the human body and at best an element which quickly passed through the body and was excreted. These

ideas were based almost entirely upon observations of mineral Silica, which in the form of dust and particles was responsible for a number of serious illnesses such as silicosis.

Silica in mineral form had been used therapeutically, it was however absorbed inefficiently into the human body. It had traditionally gained a place in the pantheon of herbal remedies, being present in Horse's Tail Fern, and some vegetables.

Work over the years on absorbable mineral and organic silica since the nineteen thirties, showed irrefutably that organic silica could be described as an essential nutrient for both humans and other animals. (3) It is necessary for early calcification of bones and animals shells, its deficiency has been found to produce alterations and abnormalities in bone growth. It has also been observed that silica plays a part in the make up of the cells which formed blood vessel walls. Perhaps most importantly, silica has been found to directly affect and form a large part of the connective tissue and cartilage which plays an important part in joints and the illnesses which affect them.

In studies during the nineteen seventies it was found that silica supplementation aided bone and cartilage growth, in 1993, it was reported that treatment with silicon could stimulate bone formation.

By the nineteen nineties, silica formulations were being used by some pharmaceutical companies, on wound dressings and burn dressings because it was recognised that wounds healed more quickly and burns could be stabilised. (4,5)

## **A MAN ON THE MOON**

In 1982, Le Ribault began work with Professor Norbert Duffaut, a chemist and research engineer at the CNRS (The National Centre for Scientific Research) situated at the University of Bordeaux. In 1957, Duffaut had synthesised a molecule of organic silicon which was capable of being absorbed by the human body.

Unlike Le Ribault, Duffaut had been using his organic silica as a therapeutic agent, treating patients since his first discoveries in the nineteen fifties. Like Ribault, Duffaut paid little attention to the academic papers on organic silica, convinced that he was ahead of the field.

When Le Ribault first met Duffaut, he had been treating people for years and he was well known in the South West of France and even in Paris. Duffaut had created NDR, the Norbert Duffaut Remedy, and had manufactured many litres, for thousands and thousands of patients. Whether to avoid the regulatory agencies, or simply out of sheer cussedness, Duffaut refused to keep any records of his transactions. 'He absolutely refused to keep a record of anything which he did', says Le Ribault. He would say, 'We are right, we will win in the end'.

In 1958 Duffaut had begun successful clinical work with Dr Jacques Janet, a gastroenterologist. He had also begun treating people, very successfully, for arthritis. Duffaut was, however, sure that cardiovascular work and blood circulation work were the most important therapeutic goals in relation to organic silica. In the nineteen sixties, Duffaut worked with Dr Rager a cardiovascular surgeon, who used organic silica for post-operative recovery. In 1967 Rager was awarded the J Levy Bricker Prize by the French Academy of Medicine for his work on the use of organic silica in the treatment of man. Rager's work also determined that organic silica helped cancer patients withstand chemotherapy.

Le Ribault and Duffaut had more than a passion for silica in common. Duffaut, in his sixties, was considered by many to be an impossibly difficult man. Le Ribault, speaking with sadness but with his usual humour says of Duffaut

'He was less diplomatic than me! A lot less diplomatic than me! Can you imagine? He was impossible. He considered that the system was made up of stupid people, he was right of course, but he said it to them on many occasions. He was eccentric, very much an individualist. I guess I was the only person able to work with him'.

Like Le Ribault, Duffaut also used humour to shield himself from the deeper conflicts. 'Duffaut was a very, very clever man, really a genius, a high level chemist who was always singing and joking and smiling, all the day long - every day!' Le Ribault fondly remembers an unmarried man, utterly immersed in his scientific work, cut off from the humdrum intercourse of the everyday world to such an extent, Le Ribault jokes, that he was, 'on the moon' for much of the time.

When Le Ribault met Duffaut, he had been testing his synthetic organic silica molecule therapeutically for fifteen years and had frequently offered his invention free to the French State and its medical research organisations. All his approaches had been met with an utter and seemingly deliberate silence.

In 1985, Duffaut and Le Ribault took out an international patent to protect the therapeutic use of organic silica. And in 1987, like many other publicly concerned scientists outside the pharmaceutical companies, they made representations to the French Minister of Research, asking that he consider their discovery for trials in cases of AIDS-related illnesses. So determined were they to force recognition of the health-giving qualities of silica on the Government that they had their request, and the evidence to support it, legally served on the Minister. Duffaut and Le Ribault receive no reply.

In November 1993, Duffaut, was found dead in his bed by neighbours who noticed he had not been out of his house. Despite the fact that Duffaut was in his early seventies and had died in bed, a post-mortem was held and potassium cyanide in his system. Although no letter was found and despite the fact that witnesses had seen Duffaut the night before in good spirits, the police concluded that he had committed suicide.

Initially, Le Ribault accepted the suicide of his colleague but has since begun to have doubts. His principle doubt was that Duffaut, a highly trained chemist would have chosen Potassium Cyanide as a vehicle for suicide, knowing that it would occasion an incredibly painful death. Duffaut's writing prior to his death did show a despondency clearly brought about by continual disappointment and frustration. His last notes contained the sentence. 'The authorities have condemned my discovery out of hand without having even tested it'.

## **PRACTICE MAKES PERFECT**

As his work progressed with Duffaut, Loic Le Ribault found that there was, in his mind, less and less academic considerations about the therapeutic uses of organic silica. He was preoccupied throughout the eighties and early nineties with trying to make the organic silica Duffaut had been using for compresses, drinkable.

'One of the most serious difficulties, was trying to make G5 drinkable. The solution we had created was slightly toxic, alright for using on the skin but not for drinking. Perhaps no more toxic than red wine, but I didn't want it to be at all toxic'.

When Le Ribault first made his therapeutic discovery, he was sceptical. However, after two or three years working with a number of doctors who used the discovery on patients and after his years of work with Duffaut, he decided that he was in a position to send files to the Ministry of Health, asking them to carry out trials on the basis of free solutions which would be supplied by him. He did not receive an answer to his many communications. The private treatment of patients, did not fit with either Le Ribault or Duffaut's ideas about health care, both wished that

the French government would take up the idea of organic silica. By the mid nineties, between them, Le Ribault and Duffaut had treated well over ten thousand people, firstly with organic silica poultices and then with a drinkable tonic solution.

Determined to make his findings of public consequence, Le Ribault arranged personal meetings in America with the Chairmen of the main pharmaceutical laboratories; he travelled to visit executives in Canada and the length and breadth of France. All the people he met showed interest and most told him that they would be in touch within weeks, as he now says, 'I have been waiting fifteen years for a reply'. One executive of a pharmaceutical company offered him £1,000,000 just to bury his discovery.

## **REGULATING MOLECULES**

At the end of 1994, Le Ribault, now working on his own with an organic silica molecule suspended in water, which he called G5, stepped up production and distribution to people with health problems. It was Le Ribault's case that as a natural non toxic substance, G5 did not need a licence; he saw it as a tonic or dietary supplement.

The problem of who pays to test a novel medical product, developed outside the pharmaceutical companies, has become a serious issue in America and European countries. On the boundaries of different kinds of medical treatment, a constant war is being waged. Trade and practice with non-pharmaceutical treatments are constantly attacked by big companies. The most common aggressors in this war of attrition are the pharmaceutical companies. With close allies in the regulatory agencies, university research departments, hospital Trusts and the media, a strategy of attrition whittles away at the number of herbs which are legally available and constantly attempts to restrict the availability of vitamins and food supplements.

The highly capitalised pharmaceutical companies can afford to compete with each other, paying hundreds of thousands, often millions, of pounds to carry out trials and then thousands of pounds for preparatory paper work so that their cases can be put before the regulatory agencies. When they have obtained licences, aggressive marketing strategies, regulatory protection and sometimes 'dirty tricks' ensure competitive ascendancy.

Herbalists, homoeopaths, nutritional therapists and those producers and practitioners who work with non-pharmaceutical treatments, unable to raise the money or hire sympathetic laboratories to carry out trials, are forced to market and use their treatments with one hand tied behind their back, unable to advertise any health-enhancing effects of any of their therapies.

Some few innovators are fortunate, in achieving special discretionary awards from the FDA in America, or the Medicine Controls Agency or MAFF in Britain, which exempt their natural therapies from the the needs of a license (6). The career of these odd treatments is irregular and haphazard and is probably dependant upon whether or not there is competition from pharmaceutical products.

The competitive, financial and professional censorship by multinationals and doctors of novel natural health therapies, at this lower end of the health care market, has inevitably spawned 'illegal' businesses and made criminals out of some doctors, scientists and therapists. But perhaps more importantly, in an odd way the pharmaceutically protective regulations and their policing have also created criminals out of many patients. By denying patients the freedom to chose their own treatments, the law and the regulatory agencies have forced some patients into a culture of underground health care.

It was into this maelstrom of pharmaceutical protection, pharmaceutical company biased regulation and confused policing, that Le Ribault, tired of the invisibility of the authorities and angered by the odd death of his colleague, launched G5 in 1994. Le Ribault's determination to

confront the big companies and the regulatory agencies was to bring his life collapsing about him.

Soon after Le Ribault began to distribute G5, in June 1995, Jean-Michel Graille, a journalist on Sud-Ouest Dimanche, approached him and asked if he could write about his discovery. Ten years previously, Graille had written a book called *Dossier Priore; une nouvelle affaire Pasteur?* (7) After getting agreement from his editor, Graille attached himself to Le Ribault for four months, observing his work as a scientist, innovator and now entrepreneur. After some initial scepticism, Graille became completely convinced of the therapeutic effects of Le Ribault's discovery. In October 1995, Sud-Ouest Dimanche published, across five pages of their magazine, a detailed account of Le Ribault's work and the suppression of his findings.

The unbelievable results of this article were to drag Le Ribault into an uncontrollable conflict with the judiciary and other, more hidden, forces. In the days following publication, Le Ribault received 35,000 phone calls, letters and visiting patients. He was obliged to rent an hotel and call scientists, doctors and personal friends to help sort out the calls and callers. Sud-Ouest Dimanche had to hire eight receptionists to answer calls. The local telephone service broke down and the phone lines to police stations and post offices were blocked for days. In the three months that followed the article, Le Ribault did his best to treat the thousands of people who converged on the area, seeking help. He says now, that pharmacists in the area, lost around 35% of their turnover in this tidal wave.

The article had other, more sinister results. As soon as it came out, Le Ribault claims, other newspapers were warned not to publish more articles. He received frequent death threats, his house was burgled, and his collaborators were threatened. One middle aged woman, who had been his aide for many years, was held hostage for an hour, in Le Ribault's house, attacked and seriously wounded. Le Ribault and his colleague knew the assailant, a Marseilles criminal who had tried to force Le Ribault to give him a franchise on G5. The police did nothing when they were informed.

Either by conspiracy, or simple criminal opportunism, companies suddenly began to spring up claiming to be using organic silica for health therapies. Many of these companies, used Le Ribault and Duffaut's names, their photographs and even their fake signatures. Illegal advertising material flooded the market using quotes from Graille's article. Le Ribault later saw public laboratory analysis of these products, which he says were either water, mineral silica or dangerous, unstable synthesis of organic silica.

Le Ribault had nothing to do with these ventures, but in January 1996, after a number of apparently genuine complaints had been received about these fake products, the Order of Doctors and the Order of Pharmacologists, the professional institutions which protect the interests of doctors and pharmacists throughout France, laid a complaint against Le Ribault before an examining Magistrate. The complaint cited the illegal practices of medicine and pharmacology. Initially, with the naivete of one divorced from politics, Le Ribault was pleased that the complaint had been lodged; 'this was something which I had been looking for, something which I expected. I thought that now the court would be obliged to instruct someone to make the tests'. Le Ribault had about six months grace before the hearing was due.

In the middle of these assaults, Le Ribault was unable to see the wood for the trees, unable to perceive that an all-out campaign had begun, the objective of which was to put an end to the therapeutic use of his discovery. His confusion and unhappiness were deepened by the death of Jean-Michel Graille in April 1996. Graille, perhaps his most articulate public supporter died suddenly and unexpectedly, aged fifty, of a stroke, while relaxing in his garden.

## **GOING TO ANTIGUA**

Le Ribault looks back upon his own unworldliness and the dangers which he has faced with some mirth. His most self-deprecating story, in an otherwise dark melodrama, is the story of how he came to end up in Antigua.

Following the publication of Graille's story, many individuals sent money, in total £500,000, to enable Le Ribault to build a clinic. Amongst the sharks who suddenly appeared wanting a piece of the action, were a group of businessmen who sought to advise Le Ribault on the setting up of a company. He took their advice, transferring the control of the new company to nominee shareholders suggested by the group.

After some discussion and planning, Le Ribault was told that contacts had been made and bank accounts opened, for him to set up his clinic in Antigua. Le Ribault's passport had been stolen when his house was burgled. With his fare paid by the company, he set off for Antigua, undercover, via the French protectorate of Martinique. It was only when he landed in Antigua and found no one there to meet him, that he began to realise he was alone on the other side of the world with no passport, no English language, no funds or friends.

'I was told that the Prime Minister himself would be waiting for me in Antigua with a diplomatic passport and I would be free to travel. I was told that there was a bank account for me and everything was ready to start the clinic. Of course, when I got there, no one was waiting for me. I had only three small bottles of G5'.

As resourceful as ever, Le Ribault began treating the rich, elderly and often arthritic boat owners as they returned from their days sailing around the coast. At the end of his first days work, he had a hundred pounds and appointments for the whole of the following week. A week later, he had enough money to travel back to France, had he wanted to.

By his own perseverance, Le Ribault made the contacts himself which should have been made for him in Antigua.

'I got permission from the Prime Minister to start a health centre. I had two kinds of patients, local patients, who have no money and I never asked money from them, they paid what they were able for their treatment; they brought me fish and vegetables and other things. In the evenings I went to the big hotels filled with the millionaire tourists, to cure them of their sunburn. Every day I had between twenty and forty tourists to cure. G5 gets rid of the pain of sunburn within five minutes and within an hour cures the sunburn itself. I also taught the barmen in the hotel bars how to use G5, so every evening the barmen applied poultices to the tourists'.

During his time in Antigua, Le Ribault pursued an embittered relationship with his homeland. When he received regulatory agreement to produce and use G5 on Antigua, he made sure that the French press raised awkward questions about the situation in France.

Le Ribault's strategy of embarrassment was to cost him dear. Two days after the issue was raised in the French newspapers, the French police raided the home of his eighty-five year old mother and questioned her for five hours. His mother, who had been fit and healthy before the interrogation, fell ill that evening. She never recovered her health and died two weeks later.

The police told Ribault's mother that there was now a warrant out for Le Ribault's arrest and they were searching for documents not only about G5 but also about Ribault's forensic laboratory CARME. Le Ribault thinks now, that when his trouble began to develop over G5, the police became concerned about the possible leaking of information about sensitive police cases.

Stranded in the Caribbean, Le Ribault was deeply saddened by the death of his mother and angered by what appeared to be a gratuitous police strategy. He had not hidden himself in Antigua: the judge who was dealing with the complaint against him, had his fax, phone number



and address,

'The police knew that my mother was very old and tired. When she died, I suppose they reckoned that I would turn up at the funeral and they would be able to arrest me.'

In November 1997, Le Ribault felt obliged to go back to France to recover the personal and work documents which he needed to continue work in Antigua. Knowing that there was a warrant out for his arrest, he decided to return covertly. 'It was my intention to show the Antiguan agreements to people in France in the hope that I could get a similar one there. I visited doctors and a number of other sympathizers who I thought could push my case forward'.

## **DIRECTLY TO JAIL**

Although Le Ribault was 'underground' in France, two of his friends suggested that he give a lecture, about G5, to a select audience. Unbeknown to him, however, with the intention of creating media interest in his case and G5, his friends had contacted the police and told them where the seminar was being held. To set Le Ribault's mind at ease his friends told him that if the police did appear he would be whisked away, leaving sympathetic attending journalists to report the crisis. In the event Le Ribault was whisked away, not by his friends but by a jubilant police posse.

And so, by accident, the most frightening part of Le Ribault's journey began.

'I was sent immediately to jail. I was taken first to the Bordeaux station of the Regional Crime Squad, from where the police called the judge dealing with my case, they said to him, "Victory, we have caught Le Ribault"'.

The judge declined to hear Le Ribault that day and he was taken to Gradignan prison.

The next day, Le Ribault was taken before the judge for a ten-minute hearing. Despite the fact that the only complaint against him was, he thought, a civil complaint from the Order of Doctors and Pharmacists, the judge ordered that Le Ribault be kept in prison. In answer to his lawyer's protests that in the prison, he was in danger from men whom he had helped convict, the judge ruled that he be kept in solitary confinement.

What worried Le Ribault as he was taken back to the jail, was the fact that no time limit had been put on his imprisonment. The judge who was clearly 'building a case', had said only that with Christmas coming up his schedule would be full and he would not be able to hear the case. Le Ribault was also concerned that the judge who had been selected to hear his case had been one of the main customers for his forensic services when he worked for the police: a judge known throughout Bordeaux, according to Le Ribault to be 'a crazy judge, very strange, very dangerous'.

Earlier on the day of his arrest, Le Ribault had five teeth extracted, now as he entered solitary confinement he was not only uncomfortable and isolated but also unable to eat. In the depths of winter, with snow falling outside and no heating inside, Le Ribault served his solitary in a cell which had next to no glass in the windows. Two fingers on one hand and both his feet became frozen and, consequently, he now has trouble walking any distance.

'The cold was the worst problem, even greater than not knowing when I would be released'.

The deprivations which Le Ribault suffered in a contemporary French prison sound echoes of Solzynitsin. As with many prisons, old systems had fallen into disuse or been adapted by the screws. Every cell had a bell in case of emergency but the guards had switched them off because of the continuous noise. To get help, the prisoners had to push a piece of paper between the door

and the door jam which could be seen in the corridor. This, Le Ribault says, was 'all right as long as the officers liked you', if they didn't, you could wait 'a thousand hours'. The judge allowed Le Ribault visits from only two working colleagues, while specifically excluding his partner.

Le Ribault's scientific imagination is also very creative. In prison, he not only recorded the day-to-day events and his thoughts, but made a number of detailed drawings of his surroundings, including the prison courtyard and his cell. Having finished these, he began meticulously copying the graffiti of other prisoners from the walls; 'Some of the drawings were very good, very interesting, some poems had a lot of feeling'.

## **RELEASED FROM PRISON**

At his second and last hearing before the magistrate, Le Ribault discovered that more complaints had accumulated in his file. The charges had grown from two civil complaints to include nine criminal charges, such as, the selling of a toxic substance, illegal experimentation in biology, and advertising a medicine in the press. Le Ribault was guilty of none of these further charges.

Of the charge that he was not a doctor, Le Ribault could say only that his qualification, that of a Doctor of Science, was the highest qualification awarded by a university in France. He also made the point that any biologist and similar natural scientist who wished to emulate Pasteur, himself not a doctor, stood a good chance of being thrown in prison in modern France.

Following the arrest of Le Ribault, the authorities made a number of statements relating to G5; one, very much in his favour, was an assurance that the substance was completely not toxic.

Desperate to get Le Ribault out of this nightmare backwater, his lawyer made an application to the High Court for his release.

'I was released by the High Court but the judges reserved their opinion and gave it two days after the hearing, which meant that I was an extra three days in prison. Three days in which I did not know whether I would be released.'

On his release the court imposed strict conditions on his bail, he had to surrender his passport and he was to report to the police station twice a week.

Released from prison, Le Ribault stayed first with a friend but two months after he settled there, he received a phone call from a police friend informing him that police officers were on their way to arrest him. Five minutes later, with Le Ribault watching from the garden, six police officers raided his friend's house.

He went next to stay with another friend, a woman with whom he had been in contact while in prison, the next day Le Ribault noticed police cars observing the address. This time, he decided to make his way to Belgium.

'It took me one month to get to the Belgian border, where I was hidden in a police station by a friend who was an officer of the Gendarmerie. The policemen drove me over the Belgian frontier, using his police papers. From there I rang Belgium friends and spent four months in an isolated house in the middle of the Ardennes forest'.

From Belgium, Le Ribault went secretly to England and from there to Jersey, where he has stayed for the last eleven months. He is now very aware of his position as man without a home or a public identity. Although he does not mention it, he must frequently weigh up his situation in light of his early brilliant career.

'My friends have helped me because I have absolutely nothing. I have no money, no relatives. I

am an illegal person, a stateless alien'.

## **SOME JERSEY CASES**

Loic Le Ribault has become a medical attraction on Jersey; he has given his treatment, now called OS5, to hundreds of people and although a few have found it to be ineffective for certain conditions, in the main, his clients have been satisfied. Most of those who have been treated know of Le Ribault's deeper problems and some of them, infected by the fear which surrounds such cases do not want to be interviewed. Many others, however, are transparently behind him in his efforts to provide OS5 to wider public.

Maria de Jesus is a nervous and exuberant thirty three year old Maderian who has lived in Jersey for the last 22 years. In the first months of this year, training to run 150 miles across the Sahara desert in the Marathon des Sables, she nearly broke her ankle when her foot caught in a hole.

With five weeks to go before the marathon, hospital doctors gave her crutches and told her that she would definitely not be fit for the race. She became increasingly convinced of this, when after a week and a half of concentrated physiotherapy, she was no better.

A friend suggested that she visit Le Ribault and made an appointment for her.

'My friend rang him at eight o'clock in the evening and he said come over. I told him about my ankle, he looked at it and told me that I would be able to do the race. I did not believe him and was very sceptical. I had to drink a spoonful as well as putting a poultice on my foot. I was quite frightened but I was willing to do anything in order to go on the race'.

Maria says that, after taking OS5 for a few days, she felt more energetic and began jogging. A week after she began the treatment, her ankle was completely healed. Three weeks later, Maria set off for Morocco where she ran the gruelling one hundred and fifty mile race across the desert.

Maria has advised a number of her friends to use OS5 and to see Le Ribault and says that from these people, she has not had a single complaint.

'This is a treatment with absolutely no adverse side effects and it should be freely available to people. I hope that Mr Le Ribault is able to open a clinic here on the island'.

Frank Amy is a tough, level headed, sceptical working-class man, who has had a crumbling spine for the last eighteen years. Initially it was Le Ribaut who contacted Amy, wanting him to help in introducing OS5 to the Island. After his first meeting with Le Ribault, Ames read the case histories of other treatments and felt complete disbelief.

Amy, who had been on strong pharmaceutical pain killers for eight years, was sleeping only from two to five hours a night because of discomfort and pain but what really upset him was that he was unable to bend enough to tie his shoe laces. After his first meeting with Le Ribault in November 1997, Amy began treating himself with OS5.

Feeling that it was important, 'to be fair to the treatment', Amy stopped taking his expensive pain killers. Within a fortnight of taking the treatment he was feeling and sleeping better; some nights he was sleeping for eight hours. Within a month he could bend down to tie his shoe laces. Amy took OS5 for ten weeks, now, seven months after the treatment, he says he still feels very well and he is almost able to touch his toes without the slightest pain. Apart from the continuing problem of a crumbling spine and occasional painful twinges which he puts down to sensitive nerves, he considers himself cured.

Since his experience with OS5, Frank Amy has become the distributor of the therapy on Jersey. As Head Constable of his elected Parish police, one of twelve on Jersey, Amy is in charge of licensing; he also sits in the States Parliament. With these duties, he feels a certain responsibility for Le Ribault and his therapy, he also feels that it is important to get proper legal status for him and a specially built clinic. Amy suggests that his full time post as Head Constable, a little like an English Mayor means that he should 'assist the people as much as possible'. He sees the possibility of help being extended to Le Ribault because he is in effect a businessman, and to his parishioners who might gain from his treatment. Sitting in the States parliament, Amy also keeps a weather eye on the Island's drugs bill and can see evident savings if OS5 were to be used more widely.

Paul Leverdier is a forty year old pool technician for the Jersey General Hospital, a carefully spoken triathlon athlete who works with patients in the hospital pool. In early 1998 he suffered with chronic achilles tendonitis, a painful tightening and jamming of the achilles tendon often caused by overtraining.

Laverdier's tendonitis had lasted for six months and was badly affecting the running and cycling aspects of his triathlon events. A physiotherapist colleague at the hospital had tried to treat the condition with ultra sound and frictions (a massaging of the tendon). After six months, the problem had been going on for so long that Leverdier began to think that he would reluctantly have to take long-term rest.

In February, after Laverdier was introduced to Le Ribault, he put SO5 on a tissue, taped it to the back of his ankle and left it overnight. Previously, when he went running, the pain on starting to run and speeding up had been crippling. The morning after he treated himself, there was no pain and, when he had finished, the tendon was not jammed up with heavy mucus as it had been in the past. He continued with the treatment for two more consecutive nights, now treating both tendons. Five months after the treatment, Laverdier seems to have shaken off the tendonitis completely and is turning in triathlon times which he would have been proud of five years ago.

Laverdier has still not told his colleagues at work about his self-medication; he would, he says, be embarrassed by their scepticism.

## **THE MEANING OF A STORY**

Dr Loic Le Ribault's story reads in part like a Walt Disney film in which the boffin-like scientist, after some hocus pocus in the laboratory, discovers a 'cure-all elixir' and is then hounded, chemical flask in hand, by men in black hats. From another perspective, however, his story reads in shades of the darkest noire, a synthesis of classic contemporary dramas, in which the publicly concerned scientist, finds himself, like Ibsen's character, in 'An Enemy of the People', beyond the pale of the orthodox community, branded as a fraud and a charlatan and hounded by the furies of profit and power.

However we read the tale, we might recognise it as a once apocryphal story which is fast becoming an everyday reality. The scientist, medical scientist or doctor, forced to work beyond orthodoxy and subjected to powerful manipulation, ridicule, sabotage or criminalisation, is becoming an increasingly common figure in contemporary drama and real life.

Although the ethnic or national details of these histories of scientific dissent, whether their subject be BSE, Vitamin B6, OS5, cold fusion, homoeopathy or everlasting light bulbs, differ slightly, they are all Euro-American stories of the post-modern era. Le Ribault's case, that of a well established scientist living on an independently governed island, in exile from a European, apparently democratic, power and owning a medicinal product which is legally produced and distributed across the world, illustrates the international nature of the condition.

It would be theoretically attractive to describe a temporal and social continuum for dissident scientists, beginning with the resurgence of science as a powerful ideology in the post-industrial period. In fact, the struggle between science and the ideological establishment and within science between its ruling groups and its dissidents, has changed little in quality, since the time of Galileo who was tortured by the Catholic church for claiming that the earth revolved around the sun.

It seems possible, however, that a century ago, or even fifty years ago, Le Ribault's work, pursued only out of a pure and curious interest in science and health, might have been supported by the State or by philanthropists and the results of his work offered by some commercial organisation to the people. In post-industrial Europe and France particularly, 'the public' no longer has a voice at powerful tables. Today the remarkable discovery of Loic Le Ribault and Norbert Duffaut, which is indisputably in the interests of the public, has become the carrion for the wolves of private, vested interests.

In an era when the market, especially in medicine, is fought over by multinational corporations and manipulated by huge trading blocs, Le Ribault's path is an increasingly well-trodden one. The metropolitan centres of orthodox industrial science are now fringed by dissidents: intellectual 'travellers' who are as surely banished as the religious heretics who wandered medieval Europe.

In the post-modern era, vested commercial interests regulate both science and medicine and more than ever before the leading institutions of the scientific and medical professions are in the pockets of industry. This free-for-all between science, professional dogmatism and vested interests was most colourfully displayed during the years which followed Robert Gallo's 'discovery' that the probable cause of AIDS was HIV.

For those who take an interest in dissent within science, the year 1985 is recognisable as the point at which scientific work began to be reviewed by press conference rather than peers groups. In France, in the years that the Wellcome Foundation protected its monopoly licence for AZT, a number of medical research scientists found themselves facing the possibility of criminal charges, for pursuing their own scientific investigations of AIDS related illness. In both Britain and America, scientists who failed to concur with the viral model of AIDS-related illness were frozen out of their work and their funding withdrawn.

When Le Ribault and Professor Duffaut applied to have G5 tested on people with AIDS-related illnesses, in 1987, the Wellcome Foundation had, weeks before, gained its monopoly licence to market AZT. This initial licensing in Britain and America, which had been received only six months after Phase II trials for the drug had been aborted, was followed by a multi-million dollar campaign across the world, beseeching governments to buy. In 1989, for example, the Brazilian government paid US\$130 million for AZT. France bought into AZT within a matter of weeks of it being licensed.

It was clear from the amount of money which Wellcome pumped into professional committees, advertising and ongoing research into AZT, that when a country bought AZT, it was also expected to cease research on any other approach to the problem of Aids-related illnesses. In America and other European countries, non-pharmaceutical and specifically non anti-viral approaches to AIDS, were discouraged.

The other ailments for which OS5 has proved most effective, rather than speculative, have been inflammatory illnesses like arthritis and injuries such as muscle strains. These are all highly competitive areas of profit for the pharmaceutical industry.

If Ribault's case is anything to go by, the French, like the Americans, appear to have a very demonstrative way of resolving their battles over science. While the British tend to be fair and

transparent in theory, while secretly smudging decisions in practice, the French take their recalcitrant scientists to court or throw them in prison, while at the same time silencing the press.

In Italy, patients and cancer doctors have been publicly divided by the unorthodox vitamin and hormone treatment developed by Professor Luigi Di Bella. But there, as is often the case in Italy, the people have taken to the streets to express their views, turning choice in medicine into a fundamentally political issue, related to concepts of democracy as well as science.

In America and Canada, countless physicians and research scientists working especially in the field of innovative cancer treatments have been pushed over the national boundaries, into Mexico or to off-shore islands like the Bahamas. During the early nineties, a number of herbal practitioners were sent to prison for contravening the laws which govern the use and prescription of herbs. Throughout the eighties and nineties, numerous practitioners have been brought before professional disciplinary panels for practising alternative or complementary medicine. In 1995, armed FDA officers, in search of B vitamin complexes, raided the laboratory and offices of one of America's leading nutritional doctors, Jonathan Wright. Clinic workers were made to raise their hands and stand against the wall, while officers pointed guns at them. It took the agents, with the help of police, fourteen hours to strip the clinic of all equipment and its vitamin and food supplement stocks.

In 1989, a French Canadian scientist and pioneer of microscopy, Gaston Naessens, was put on trial in Quebec. After forty years' research, Naessens, had concluded that it was possible to diagnose cancer by observing the life-history of micro-organisms in the blood. The Canadian government and the medical establishment indicted Naessens on charges of manslaughter as well as the illegal practice of medicine. More recently, another French Canadian, medical doctor Dr Guylaine Lancot, resigned from the Royal College of Canadian Physicians, rather than stand disciplinary trial over her position on vaccination and what she had termed The Medical Mafia, in her book of that name.

In Britain, in 1990, powerful individuals within orthodox medicine and medical science, tried to shut down the Bristol Cancer Help Centre. They gave world-wide publicity to bogus research results claiming that anyone going to the Centre was three times more likely to die of cancer than someone who sought orthodox help. In 1997, vested interests in science and the pharmaceutical industry managed to persuade the new Labour government that the sale of vitamin B6, particularly useful in cases of stress and hormonal problems in women, should be restricted.

Because the power of today's corporations is so awesome, there are fewer and fewer people willing to fight the corner for the Loic Le Ribaults of the world, disparaged or criminalised by the system. This lack of popular defence for those who argue the public interest is a sad reflection on European democracy. Although the voice of the dissident has always been with us, the wilderness into which that voice now sounds has radically changed in the post-industrial era. Dissidents are no longer popular figures as they were in the nineteen fifties and sixties.

Le Ribault has harsh words for the French public, who he feels must have known of his circumstances but did nothing.

'I have cured maybe 20,000 patients and there are now many doctors using OS5. Everyone in France knew that I was put in jail, many of my patients knew that I was in jail. Yet I received only 30 letters. Even about such an important problem as their own health, French people unfortunately do not act together. I keep remembering that during the second world war, many of them were like sheep and numerous people in authority collaborated with the enemy. Only a very few dared make any resistance. I have lost everything to help people, now the patients have to fight if they want the cure. They have to ask for the right to use the medicines they want'.

Le Ribault sees the patients 'right to choose' as being the salient right in the dispute between himself and the French State. In arriving at this conclusion, he has much in common with those on the American Right who are demanding the break up of big regulatory government and protective professional cartels.

'One point of great weight' Le Ribault says, 'seems to have been forgotten in this whole affair. It is not the medical authorities who should be deciding the fate of sick people. It is for the sick themselves and only the sick to make such decisions'.

Le Ribault has so far survived his ordeal, with his sense of humour remarkably intact and his mental and moral faculties well- balanced. He is presently putting the finishing touches to a 400 page book entitled *A Letter to my Judges*. The book bears no resemblance at all to *The History of a Grain of Sand* the major work of his intellectual youth. His new book is a gauntlet thrown at the feet of the French establishment, studded with the names, addresses and telephone numbers of those in the judicial and policing establishment who brought about his downfall. It reads like a handbook for intellectual guerilla warfare. Not surprisingly, the book will not be published by any of Europe's leading publishing houses but sent only in a special edition of 500 to individuals in the French media. Although Le Ribault holds out little hope, and has, anyway, little desire for his political and social resurrection in France, he still wants to force the French establishment, the police and the judiciary in particular, to face their crimes.

If *A Letter to my Judges* fails to stir the conscience of the French Republic, then Le Ribault hopes that his case, due to be heard before the European Court of Human Rights in the next months and involving thirty-seven charges against the French authorities, will at least send a public signal to those who have tried to destroy him. His struggle has turned Le Ribault into a political radical; he says ironically, that although he has never had anything to do with French politics, his next book could well be about revolution.

On a personal level, Le Ribault is becoming frustrated with his virtual house arrest in Jersey. Despite the fact that the authorities have acted with understanding and the locals with empathy, and although he still considers plans to set up a clinic there, he also feels the call of his newly-adopted Antigua. He hopes in time to reclaim his possessions, his books and papers, from France, and begin a new life of retirement working on his molecule and fishing in the warm clear seas around the island.

His principal regret, he says laconically, 'is not that I have this story to tell, but that such a story should have to be told in modern France'. Asked if he is sad that he cannot return to France, Le Ribault is definite: 'I never' he says, slowly, 'wish to set my foot on France soil again ... ever. Perhaps to see the graves of my parents, for a moment I would go back' he adds, 'but then come away again. I consider now that I was before a citizen of Brittany and not of France'. He can hardly contain his anger, 'I have been told by the police that if I am in France again, I would not just be arrested but killed. I hate France' he says softly.

Le Ribault now feels, that he has done all he is personally able to do with OS5:

'I have agents in many countries and about 100 doctors and practitioners now using OS5. I receive calls from new doctors every day, there is a lot of interest in France, Belgium, Ireland, Switzerland and Portugal. I have the task of improving the molecule, it is doctors that should be treating people. The production of OS5 is in France, it is legal and it is non-toxic and it is to high standards.'

Le Ribault is still angry and perturbed that the French government did not take the discovery from him and Norbert Duffaut, taken over its production, and introduced it to the world as an accepted international medicine.

'But' he says, 'It is not the government who are in control of the country, but the multinational corporations and the financial people, my struggle is evidence of that'.

## Notes and References

- 1 -- Between 1982 and 1991, Le Ribault gave evidence in over a thousand cases, helping to convict 800 defendants mainly of murder and other violent crimes. He introduced not only the electron scanning Microscope to French criminal forensic work, but also the high technology mobile laboratory constructed in the back of a van. He published over fifty papers in journals about different aspects of forensic work and was the subject of hundreds of newspaper articles.
  - 2 -- Le Ribault received his doctorate in geology and as a result of his early work with electron microscopy, he got to know silica so well, that he could determine the geological history of a grain of sand. In his first book *The History of a Grain of Sand*, told this very story. When he was first approached by the FBI to test three blinded sand samples, he was able to tell them the exact location in the world from which they had been collected, that one sample had been gathered from the bonnet of a car and that another had been in the vicinity of an explosion in Buiruit.
  - 3 -- Carlisle, Edith M. Silicon as an essential element. Environmental and nutritional science, school of public health, University of California, Los Angeles. Newer Candidates for essential trace elements. Federation proceedings Vol. 33. No 6. June 1974 .
  - 4 -- Silastic Gel and elastomer in the cicatrization of wounds in the rabbit, Aubert, J.P., Magolon, G. J.Chir. Paris. 1993 Dec; 130 (12): 533-8)
  - 5 -- Treatment of burn wounds and wounds healing with secondary tightening using dressings with aerosil. Mishchuk I.I., Nagaichuk, V.I., Gomon, N.L., Berezovskaia, Z.B., Ossovskiaia, A.B. Klin. Khir. 1994 (4) : 21-2)
  - 6 -- See for example the case of methyl sulphonyl methane (MSM) which has a remarkable similarity to the case of OS5. MSM is an organic sulphur, found in meat fish and fresh vegetables and used originally, in synthetic form as an animal nutrient for stiff joints but now sold as the food supplement Supersulf. Dr Robert Hershier who sythesised the compound, has always refused to deal with the pharmaceutical companies because he knows that the substance would be withdrawn and subjected to lengthy trials, which would in turn increase the price of MSM. Dr Hershier, has however managed to get his therapy passed by the American Food and Drugs Administration as a food supplement)
  - 7 -- Jean-Michel Graille (1984) Dossier Priore; une nouvelle affaire Pasteur? Editions Denoel, Paris.
- During the second world war, Priore, an officer in the Italian Navy, discovered by chance that certain forms of radiation were able to cure cancer. Following the war, Priore went to France and built a machine to generate radiation and with which he began to get good results on cancer patients. His work was watched, supported and verified, with great interest and excitement by the French political establishment. But when an 'independent' scientific report was made of his work by cancer specialists, its conclusions were falsified. Priore died in 1983.

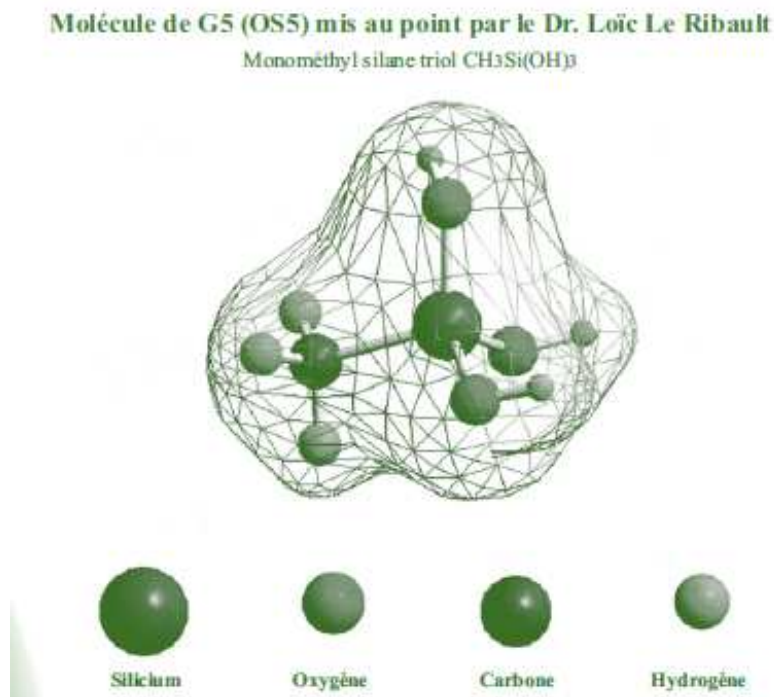
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[https://www.silicium.com/v\\_portal/apartados/apartado.asp?te=292](https://www.silicium.com/v_portal/apartados/apartado.asp?te=292)



by

**Loïc Montreux**



Silicium Laboratories LLC's Organic Silica 5th generation molecule was invented by the late Dr. Loïc Le Ribault. Throughout the nineteen eighties, Loïc Le Ribault was the most important and renowned forensic scientist in France . He collaborated with the FBI and was greatly admired by his American colleagues. This collaboration and admiration was expressed by the Pulitzer winner, John McPhee, in his book *Irons in the Fire*, 1998. As a precocious young academic with a love for silica, Le Ribault had ground-breaking papers published by the French Academy of Science. At twenty-four, in 1971, he discovered a new function for the electron scanning microscope (ESM), called exoscopy, which enabled him to discern the history of grains of sand.

The following year, in 1972, while working with sand on the ESM, Le Ribault made an interesting discovery: a layer of water-soluble amorphous silica which contained micro-organisms covered the surface of some sand grains. He found that these micro organism and the secretions which they left on the sand contained organic silica. Organic silica differs from mineral silica which makes up the majority of the earths crust, in that it contains carbon and can be readily assimilated by animals.

By 1975, Le Ribault had created a process by which it was possible to recover these deposits from the surface of the sand. All of this work was accepted by the scientific establishment and his papers published by the French Academy of Science.

There has been constant research into organic silica over the previous fifty years and some of this research had raised questions about its therapeutic use. In his early work, as a geologist, Le Ribault had not been following the research into silica and health. However, in the early eighties, while working on the organic silica deposits he had found, he immersed his hands in an organic silica solution and found that his psoriasis was cured. From then on, Le Ribault's work became focused in the therapeutic properties of silica.

Le Ribault repeatedly tested and refined his organic silica molecule until he had the safest and highest bioavailable form on the market. This molecule, now known as 5th generation organic Silica, is the best known product in Europe and the most efficient way to take silica. It has a

70% assimilation rate compared to the 5-20% rate found with other silica molecules on the market.

Le Ribault gave lectures and taught courses throughout the world. He authored 11 books and published dozens of well received scientific studies. The last conference he held was in Barcelona on May 20, 2005 in the Exhibition Hall to 500 doctors and professional nutritionists. He died in 2007.

Loïc Le Ribault left two great legacies: the exoscopy and the organic silica molecule contained in Silicium products. In 2005, a collaborative agreement was signed between Silicium Laboratories Ltd. in Europe and Loïc Le Ribault to commercialize his discovery through the manufacture, promotion and distribution of his organic silica molecule and its derivatives. Thanks to Loïc Le Ribault, 5th generation organic Silica is now available in the USA , UK and worldwide.

[https://www.silicium.com/v\\_portal/apartados/apartado.asp?te=486](https://www.silicium.com/v_portal/apartados/apartado.asp?te=486)

Silicium G5 Siliplant is a dietary supplement that provides bioavailable organic silica to the body. Silica is an essential oligoelement for humans, meaning it is indispensable for the body. Silicium G5 Siliplant restructures and helps maintaining a healthy metabolism in general. It shows no side effects. Many people suffer from dietary deficiencies of silica, due to this, an extra input of silica is very important (Seaborn Nielsen 1993-2004).

Proven by clinical studies made in France in 2011.

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<http://proliberty.com/observer/20071105.htm>

**From the November 2007 Idaho Observer:**

## **A Tribute to Loic le Ribault**

**(April 18, 1947 – June 7, 2007)**

**By Matt Yanke**

There are a few scientists who have advanced the study of orthomolecular nutrition and Loic le Ribault is certainly among them. His discovery of the process of developing a high potency form of organic silica could potentially revolutionize the treatment of wounds, psoriasis, cardiovascular diseases, arthritis, and a myriad of ailments plaguing mankind today. Organic silica happens to be one mineral that most people are deficient in and our ability to assimilate the optimum daily amount not only diminishes with age but is nearly impossible to obtain solely from plant sources. His discovery and subsequent successful study of thousands of "patients" throughout Europe with OS5, his patented form of high-potency organic silica, must not be forgotten even though he will likely never be mentioned in our "corporate-controlled" history books.

Loic le Ribault, who had a doctorate in geology, was France's most renowned forensic scientist. While in his 20s, several of his groundbreaking research articles were published by the French Academy of Science.

**History of a grain of sand**

In 1971, Le Ribault discovered a unique function for the electron scanning microscope (ESM), enabling him to discern the entire history of a grain of sand—where and when it originated, how it was formed, where and how it had been transported, where it had next lodged and how long it had stayed in that place.

By the time he had finished his research, he had devised a list of 250 criteria by which the history of sand might be diagnosed. The field was later to become so specialized that it would take three years to train a scientist in the technical knowledge necessary to interpret the data from these tests.

While in the process of understanding more about the silica coating on grains of sand, he wrote his first book, *The History of a Grain of Sand*. When Le Ribault was first approached by the U.S. Federal Bureau of Investigations (FBI) to test three sand samples, he was able to tell them the exact location in the world from which each had been collected, such as identifying one as coming from Beirut, Lebanon in the vicinity of an explosion.

In 1972, while working with sand on the ESM he made an interesting discovery: A layer of water-soluble amorphous silica which contained micro-organisms covered the surface of some sand grains. When looking through the ESM at certain grains of sand with 10,000x magnification, the image looks something like a flower blooming (see photo in silica story above).

What this mineral flower represents is secondary crystallizations that develop on quartz crystals under specific conditions. Certain grains of sand acquire these deposits from the combined actions of micro-organisms that break down the sand and the diverse environmental conditions in which the granule finds itself. The end result is a form of silica that contains more carbon and hydrogen thus making it organic in nature.

The importance of this discovery may not seem significant to some, but to others, especially those who are interested in leading a healthier lifestyle, its importance rings loud and clear. Organic silica differs from mineral silica in that it contains carbon and can be readily assimilated by animals, making his discovery important for its potential therapeutic applications.

Though our bodies are made out of minerals, they do not readily assimilate minerals found in rocks and soil. Our bodies require minerals that are organic by nature; minerals that micro-organisms or plant life have converted into organic, bioavailable forms. The only foods known to contain reasonable amounts of silica are some vegetables, bamboo, the husks of seeds, and horsetail herb. But the main problem is that the amount of silica in these foods is simply not enough to support our body's daily requirements for silica, which increases as we age.

### **Harvesting organic silica**

By 1975, Le Ribault had created a process by which it was possible to recover these deposits from the surface of the sand. All of this work was accepted by the scientific establishment and his papers were published by the French Academy of Science. Although much research had been conducted on the possible therapeutic applications of organic silica since the 1930s, Le Ribault had not been following this research as he continued perfecting the process of extracting organic silica deposits from grains of sand.

But, in the early 80s, while working on the organic silica deposits, he immersed his hands in an organic silica solution and found that his psoriasis had disappeared. From then on, Le Ribault's work became focused on the therapeutic properties of silica.

### **Adventures in microscopy**

After le Ribault discovered his silica "blooms," he continued on with his career of microscopic adventures until he found himself at the head of the world's forensic experts. In 1982 he set up his own laboratory known as CARME which became the main laboratory used by the French police, judiciary and the French Home Office for solving crimes. He would go to the scene of the crime, take samples, go back to his laboratory CARME and investigate what had occurred.

Through amazing skill and keen observation, the mystery as to what happened would be revealed, often leading to solving the case. For many years he performed incredible feats of detective work, acting as though he was a veritable Sherlock Holmes only with a much more powerful magnifying glass.

## **Blacklisted**

Unfortunately, as a result of his work on organic silica, the same agencies that Le Ribault had worked with turned against him, funneling to the media false information. In 1985, Le Ribault published a famous comprehensive text entitled "Microanalysis and Criminology," which was distributed to all the Gendarmeries (police force) in France. Several years later, text from this publication was later reviewed and some "interesting" modifications were discovered. Important references to CARME were missing, his method for marking invisible objects was no longer mentioned as patented and his name was completely omitted from his own report. After these unfortunate events, CARME was not able to stay open for more than a few more years due to lack of clients.

Although this was hard for Le Ribault to handle, he was a resilient fellow. Thankfully, during the years CARME had been in operation, he had been engaged in research with a highly acclaimed research chemist, Professor Norbert Duffaut from the University of Bordeaux who had synthesized an organo-silicon molecule. Between them, they hoped to develop an easy to ingest form of organic silica and to apply it therapeutically to patients who they believed could benefit from its application.

Success. He stabilized it in salicylic-acid and it proved to be an effective therapy. Duffaut treated numerous patients and stated having success with joint pain, rheumatoid arthritis, skin ailments and other health conditions.

Le Ribault and Duffaut worked together for many years, treating patients for free out of their own houses. In 1985, they secured an international patent for their organic silica formulation which they called G4. Word soon spread about their successes with G4 and articles were published about their discovery in newspapers and popular magazines.

Persecution. In November 1993, after 12 years of working together, and perhaps as a consequence of their work on the new therapy, Duffaut was dead, poisoned in suspicious circumstances and Le Ribault himself had suffered two months solitary confinement in a French jail. The primary charge? Practicing medicine without a license.

Le Ribault had always justified his lack of a license for both himself and his reformulated product, G5, saying G5 was a natural, non-toxic substance that was more of a tonic or dietary supplement.

Vindication. Then, in October, 1995, an investigative article written by Jean-Michel Graille appeared in the magazine, Sud-Ouest Dimanche, outlining most of the case studies done by Le Ribault and Duffaut, including pictures and testimonials from satisfied patients. The response was overwhelming.

In the three months following the article's publication, Le Ribault did his best to treat thousands of people who converged on the area needing help. The backlash from the pharmaceutical and

medical professions was swift. Apparently, local pharmacists lost 35 percent of their business during this tidal wave of patients seeking help from Ribault's new formulation, G5.

The rest of Le Ribault's story takes a turn for the worst after his G5 gained so much notoriety. He had been appealing to several pharmaceutical laboratories about the importance of G5, encouraging them to produce it. After 15 years there was no reply except from one pharmaceutical executive who was willing to give him \$1 million USD in exchange for his patents. The man wanted to put an end to G5, which he stated "is showing to be too effective."

Exile. Although Le Ribault denied the offer, several charlatans began capitalizing on the popularity of G5, and imitation and frequently dangerous products flooded the market, leading to his arrest. After spending several months in prison, he ended up fleeing France through Belgium and then onto England where he settled on Jersey, the southernmost of the Channel Islands—about as close to France as one can be without being there. He spent a few years in Jersey, making a significant impact on the health of its residents.

### **A couple of his Jersey cases**

Le Ribault began administering his treatment, now called OS5, to hundreds of people and although a few found it to be ineffective for certain conditions, in the main, his clients were extremely satisfied. Most of those who were treated knew of Le Ribault's deeper problems and some of them, infected by the fear which surrounds such cases, did not want to share their stories publicly. However, there were many more who stood by him in his efforts to provide OS5 to more and more people.

Maria. Thirty-six year old athlete Maria de Jesus had lived in Jersey since 1982. In 2004, she began training to run 150 miles across the Sahara desert in the Marathon des Sables, but nearly broke her ankle when her foot caught in a hole. With only five weeks to go before the marathon, hospital doctors gave her crutches and told her she would definitely not be fit for the race. She became increasingly convinced of this, when after a week and a half of concentrated physiotherapy, she was no better.

A friend suggested that she visit Le Ribault and made an appointment for her.

"My friend rang him at eight o'clock in the evening and he said come over. I told him about my ankle, he looked at it and told me that I would be able to do the race. I did not believe him and was very skeptical. I had to drink a spoonful as well as putting a poultice on my foot. I was quite frightened but I was willing to do anything in order to go on the race."

After taking OS5 for a few days, Maria felt more energetic and began jogging. A week later, her ankle had completely recovered. Three weeks later, Maria set off for Morocco where she ran the grueling, 150 mile race across the desert.

Frank. Frank Amy is a tough, level headed, skeptical working-class man, who has had a crumbling spine for the last 18 years. Amy, who had been on strong pharmaceutical pain killers for eight years, was sleeping only two to five hours a night because of discomfort and pain but what really upset him was his inability to bend enough to tie his shoe laces. After his first meeting with Le Ribault in November 1997, Amy began treating himself with OS5.

Feeling that it was important "to be fair to the process" Amy stopped taking his expensive pain killers. Within two weeks of taking the treatment he was feeling and sleeping better; some nights he slept for eight hours. Within a month he could bend down to tie his shoe laces.

Amy took OS5 for 10 weeks. Seven months after this trial period, he still felt good and was almost able to touch his toes without the slightest pain. Apart from the continuing problem of a

crumbling spine and occasional painful twinges which he puts down to sensitive nerves, he considers himself symptom-free.

Paul: Paul Leverdier was a 40-year-old pool technician for the Jersey General Hospital, a carefully spoken triathlete who works with patients in the hospital pool.

In early 1998 he was suffering from chronic Achilles tendonitis, a painful tightening and jamming of the Achilles tendon often caused by overtraining. After six months without relief, a physiotherapist colleague at the hospital tried to treat the condition with ultra sound and frictions (a massaging of the tendon).

After another six months, the problem had been going on for so long that Leverdier began to think that he would reluctantly have to take long-term rest. After Laverdier was introduced to Le Ribault, he taped OS5 to the back of his ankle and left it overnight. Previously, when he went running, the pain on starting to run and speeding up had been crippling.

The morning after he treated himself, there was no pain and, when he had finished, the tendon was not jammed up with heavy mucus as it had been in the past.

Leverdier continued with using OS5 for two more consecutive nights, applying it to both tendons. Five months later, Laverdier's tendonitis was completely gone and he turned in triathlon times he would have been proud of five years earlier.

### **Loic Le Ribault's legacy**

He successfully worked with more than 100,000 people with something as simple as an organic mineral. Le Ribault described his organic silica as a very important substance that proved its importance time after time. He stated that, "it has the capacity to penetrate the outer and inner layers of the skin to be diffused throughout the body, reaching areas that have been damaged, or are suffering from pain. It a anti-inflammatory processes and strengthens the immune defenses of the organism. It plays a major role in supporting collagen formation, bone mineralization and body metabolism in general. With age, the amount of organic silica present in the body dwindles irreversibly, since the human system is incapable of transforming the mineral silica ingested from food and drink into organic silica."

It is fairly self-evident the monumental importance of Le Ribault's discoveries and their applications. Because of them, Le Ribault was known wherever he went. People he had never met, upon hearing his name would come over and introduce themselves and thank him for everything he had done for them or a family member. Many times it was these people that helped Le Ribault out when he was in desperate need.

Due to the fact that Loic Le Ribault had passed on in June of this year, we felt it was important that he not only be remembered but never forgotten for the important contributions he made to the science of orthomolecular nutrition and to humanity as a compassionate practitioner.

For more information on Le Ribault's "living silica," contact Matt Yanke at

**Products for Nature,**

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[http://en.wikipedia.org/wiki/Lo%C3%AFc\\_Le\\_Ribault](http://en.wikipedia.org/wiki/Lo%C3%AFc_Le_Ribault)

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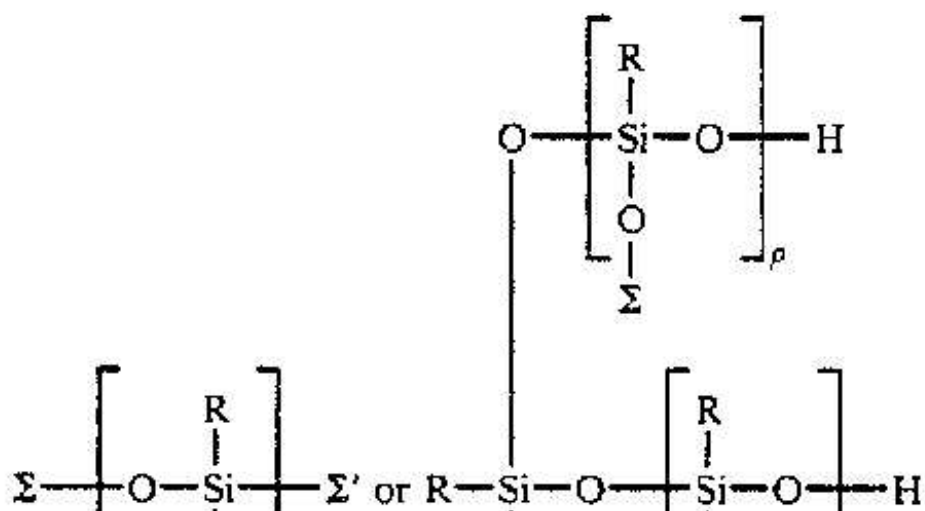
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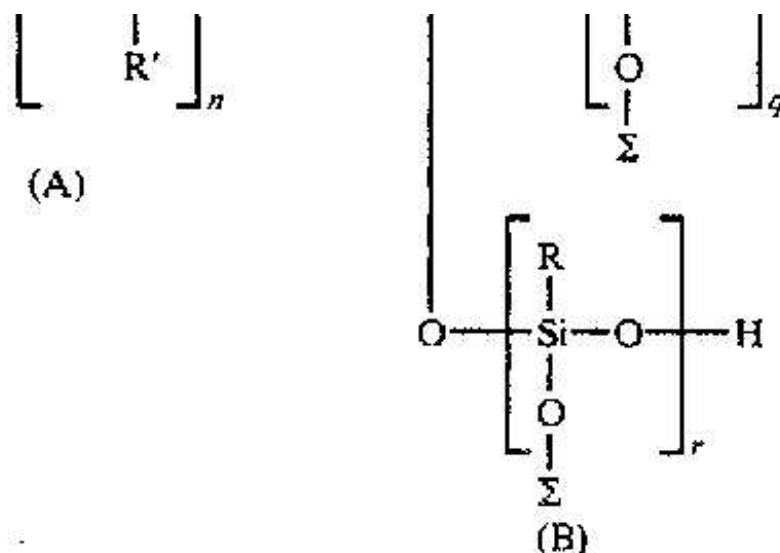
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US4994445

## Substances with Therapeutic Applications Comprising Organo-Silicon Compounds

Also published as: EP0152366 // FR2559063 // FR2559063





## Abstract

A substance with therapeutic applications comprises, in aqueous solution: (1) at least one organo-silicon compound having either of the following formulas: in which: n is an integer between 1 and 1000, and preferably between 1 and 50; p, q, r are integers between 0 and 1000, and preferably between 0 and 60; R and R' represent, independently of one another, a linear aliphatic group, branched or cyclic, saturated or not, hetero-linear branched or not, cyclic saturated or not, aromatic, heteroaromatic, arylaliphatic, or heteroarylaliphatic, which may also be functional, whilst R may also be OH, OR or OSiR<sub>3</sub>; SIGMA is R, H or SiR<sub>3</sub>, where R is as previously defined; SIGMA ' is R and more particularly CH<sub>3</sub>, OR, OH or OSiR<sub>3</sub>, where R is as defined above, and (2) at least one metal selected from the group comprising titanium, zirconium, hafnium, vanadium, germanium, chromium, rhodium, gold, iridium, platinum, osmium, the rare earths and uranyl derivatives, preferably in the form of a salt, an oxide or a hydroxide.

## BACKGROUND OF THE INVENTION

### 1. Field of the invention

The present invention concerns new substances with therapeutic applications, usable in particular to treat certain troubles of cellular mitosis and cardiovascular diseases.

### 2. Description of the prior art human beings for many years, due in particular to the discoveries of N. DUFFAUT.

These water-soluble and atoxic compounds pass easily through the epidermis and dermis on local application (GUEYNE, DUFFAUT and QUILICHINI, Therapie 1962, 17, 417).

The numerous therapeutic properties of these organo-silicon compounds used on their own have been disclosed in several patents (in particular French **Pat. Nos. 2.158.068, 2.160.293 and 2.230.376**).

According to these documents, organo-silicon compounds are administered by intravenous or intramuscular injection or by electrophoresis, the active ingredient being then in solution in water (isotonic solution), with the possible addition of an alcohol or polyalcohol, such as glycerol and/or a sodium salt of a pharmaceutically acceptable organic acid.

It has previously been shown, in particular in the above mentioned patents, that certain



substances of various kinds are able to potentiate and widen the scope of the organo-silicon compounds.

It has now been unexpectedly found that it is possible to obtain a new substance with therapeutic applications by combining one or more organo-silicon compounds with one or more metals, preferably in the form of their salts (chloride, nitrate, sulfate or organic acid salt, for example) or in the form of oxides or hydroxides, all this by way of example with no limiting effect.

The metals concerned are titanium, zirconium, hafnium, vanadium, chromium, germanium, rhodium, gold, iridium, platinum and/or osmium, but use may also be made of uranyl derivatives and the rare earths.

It has also been found that substances of this type are especially useful for treating certain troubles of cellular mitosis and cardiovascular diseases against which they have a specific action, and that the substances thus obtained can be simply administered transcutaneously.

## SUMMARY OF THE INVENTION

In one aspect, the invention consists in a substance with therapeutic applications, usable in particular for treating troubles of cellular mitosis and cardiovascular diseases, comprising, in aqueous solution:

(1) at least one organo-silicon compound having either of the following formulas:  $\text{R}_n\text{SiR}'_p\text{OR}_q$  in which : n is an integer between 1 and 1 000, and preferably between 1 and 50;

p,q,r are integers between 0 and 1 000, and preferably between 0 and 60

R and R' represent, independently of one another, a linear aliphatic group, branched or cyclic, saturated or not, hetero-linear branched or not, cyclic saturated or not, aromatic, heteroaromatic, arylaliphatic, or heteroarylaliphatic, which may also be functional, whilst R may also be OH, OR or  $\text{OSiR}_3$  ;

.SIGMA. is R, H or  $\text{SiR}_3$ , where R is as previously defined;

.SIGMA.' is R and more particularly  $\text{CH}_3$ , OR, OH or  $\text{OSiR}_3$ , where R is as defined above, and

(2) one or more metals preferably in the form of salts (chloride, nitrate, sulfate or organic acid salt, for example) or in the form of oxides or hydroxides without these forms having any limiting effect.

The organo-silicon(s) compound(s) is/are used in a concentration varying from  $10^{-5}$  to  $10^{-10}$  atom-gram of silicon per liter and more particularly  $10^{-2}$  to  $10^{-4}$  atom

The metals usable are titanium, zirconium, hafnium, vanadium, germanium, chromium, rhodium, gold, iridium, platinum and/or osmium, but use may also be made of uranyl derivatives or the rare earths.

The proportions of the addition of (2):(1) are comprised between  $10^{-10}$  and  $10^{-5}$  atom-gram of metal per per liter of solution, but these proportions may be significantly reduced by using the metal elements in the form in which they are employed in homeopathy (preferably 5 to 20 granules at the dilution defined for homeopathy of 5 CH (CH=Hahnemann centesimal) in a liter of organo-silicon solution, nevertheless this dilution may vary very widely, from 20 CH to 1 D (D =Hahnemann decimal), and the concentration may be even higher as mentioned hereinabove).

The substance in accordance with the invention may also comprise, in a proportion appropriate to neutralizing and possibly stabilizing these substances, one or more organic acids (or their salts, in particular their alkaline salts), such as for example salicylic acid, citric acid, propionic acid, aspartic acid, glutaric acid, glutamic acid. It should however be noted that salicylic acid must be proscribed for the treatment of patients allergic to phenols and to salicylic acid in particular and that, to the extent that this situation may be encountered, it is then entirely possible to substitute for this acid citric acid or its salts, as is shown later in the examples.

The organic acid or its salt is in practice employed at concentrations varying from 10@-5 to 10@-1 molecule-gram per liter or more, and more particularly from 10@-2 to 10@-4 molecule-gram per liter.

In all cases, it would seem preferable that the solution have a pH between 3 and 7, or better still between 3 and 5.

The organo-silicon compounds corresponding to the above stated formula are products known per se.

There may be used for obtaining the substances in accordance with the invention either those available commercially or their known precursors from which they are obtained by hydrolysis, such as for example the corresponding silazanes or alcoxysilanes (in this context see in particular document FR-A-2.230.376 the text of which is herein incorporated by way of reference).

The metals may be combined with the organo-silicon compounds by addition to the solution of the latter either in the solid state or in the form of an appropriately titrated aqueous solution, either from the outset or at the time of application and in particular at the time of the use for therapeutic purposes of the substance in accordance with the invention.

The substance in accordance with the invention may thus consist either in a single product containing the organo-silicon compound and the metals or in a two-component product containing separately the organo-silicon compound and the metals, which may be mixed together extemporaneously.

The substance may be made available to users in bottles or in ampoules which constitute unit doses containing a measured quantity of product for each application.

The unit doses of the complete substance recommended for each transcutaneous application are advantageously 200 cm@3 approximately.

The substances may further comprise neutralizing and/or preservative agents compatible with the active ingredients, such as those indicated hereinabove, as other constituents such as coloring agents, scents and other excipients, such as the man skilled in the art is able to select and incorporate on the basis of his own knowledge and according to requirements.

From tests carried out on man, it has been possible to establish that applying organo-silicon compounds associated with metals, in the form of application of substances in accordance with the invention to the skin, as a compress, for example, has a transcutaneous action and exerts an action which is pharmacologically effective for the treatment of certain troubles of cellular mitosis and cardiovascular diseases.

The results of tests show that substances in accordance with the invention are particularly indicated and exceptionally effective, without having any significant toxicity, for the treatment or prevention of certain troubles of cellular mitosis and the treatment of cardiovascular diseases.

By way of indication, the following dosage may be recommended:

Application of a cotton compress (approximately 5 cm by 7 cm) impregnated with the substance in accordance with the invention to the painful or deficient area or any other part of the body. The compress is covered with a film of plastics material or any other material able to retain moisture. The compress is applied for a period of between eight and twelve hours per day (overnight, for example).

Dabbing the skin with wadding impregnated with the substance in accordance with the invention. Dabbing is carried out two to four times per day, on the forearm, for example at the place where the blood vessels are most apparent. It has been possible to establish that the substance in accordance with the invention passes readily through the epidermis.

It has also been possible to apply simultaneously the constituents of the substance in accordance with the invention by ionokinesis practised locally at (or outside) the deficient or painful area. The ionokinesis equipment consists of a direct current generator (generating approximately 10-15 milliamperes) provided with a device for progressively establishing or interrupting the current and capable of maintaining a constant current throughout the duration of the treatment. The current is progressively increased to 10 mA and maintained for twenty minutes before it is progressively reduced and then interrupted. In certain cases, the current may be increased to 25 mA, the duration of the treatment possibly being as much as 30 minutes. The generator is connected to two electrodes of carbon or other materials as routinely used for ionokinesis treatment. The surface area of the electrode, although varying widely, is routinely on the order of 200 cm<sup>2</sup>. Each of the two electrodes is surrounded with hydrophilic cotton impregnated with the substance in accordance with the invention.

The electrode connected to the negative terminal of the generator is applied to any part of the body, preferably the deficient or painful area; it is held in contact with the skin by means of a bandage. The other electrode, connected to the positive terminal of the generator, may be applied to any location on the skin or merely held in the hand, the area of contact being as large as possible. In certain special cases the polarity of the electrodes is reversed during the treatment.

It should be indicated that a course requires ten to thirty treatments at intervals of twenty-four through seventy-two hours, the rate most routinely adopted being two to three treatments per week. The course is totally without pain. However, certain sensitive subjects experience a pricking sensation at the location of the electrodes during the treatments. No local or general reaction of the organism has been noted, except slight erythema in the area to which the electrodes are applied.

However, when the subject is allergic to phenol derivatives, a solution not containing this type of derivative must be selected.

Intramuscular injections may also be used.

## **EXAMPLES**

The invention will now be described in more detail with reference to the following non-limiting examples.

### **EXAMPLE 1**

Into a 1 liter beaker was placed 1 g of salicylic acid to which 700 ml of distilled water was added.

Whilst stirring vigorously, 1.2 ml of potassium extract) was slowly added. Then 1 mg of uranyl

nitrate was added. The pH of the solution was adjusted to 4.7 by adding an aqueous solution of potassium and the volume made up to 1 liter with distilled water. **EXAMPLE 2**

Into a 1 liter beaker was placed 1 g of citric acid to which 70 ml of distilled water was added.

Whilst stirring vigorously, 1.2 ml of potassium methylsiliconate solution (concentration 45% of dry extract) was slowly added. Added in succession were 3 mg of zirconium nitrate, 1 mg of uranyl nitrate, 1 mg of hafnium nitrate and 3 mg of titanium chloride.

The pH of the solution was then adjusted to 4.7 by adding an aqueous solution of potassium the volume was made up to 1 liter with distilled water and the solution filtered.

### **EXAMPLE 3**

Into a beaker containing 500 ml of distilled water previously cooled by addition of crushed ice there was slowly added whilst stirring vigorously 0.65 g of dimethyldichlorosilane and 0.85 g of sodium bicarbonate.

It was verified that the pH was approximately 7.

The solution thus obtained being homogeneous, there was added slowly whilst stirring vigorously 1.1 g of sodium salicylate.

2 mg of zirconium nitrate was added.

The pH of the solution was adjusted to 4.7 by addition of an aqueous solution of soda.

The volume was then made up to 1 liter with distilled water.

### **EXAMPLE 4**

Into a beaker was placed 1 g of citric acid to which 700 ml of distilled water was added.

Whilst stirring vigorously, 1.7 ml of a solution of potassium methylsiliconate (concentration 45% of dry extract) was slowly added to this solution.

1 mg of uranyl nitrate was added.

The pH of the solution was adjusted to 4.7 by addition of an aqueous solution of potassium. The volume was then made up to 1 000 ml with distilled water.

### **EXAMPLE 5**

Into a 1 liter beaker was placed 1 g of salicylic acid to which 700 ml of distilled water was added.

Whilst stirring vigorously, 1.2 ml of a solution of potassium methylsiliconate (concentration 45% of dry extract) was slowly added. There was then added 3 mg of zirconium nitrate. The pH of the solution was adjusted to 4.7 by addition of an aqueous solution of potassium and the volume was made up to 1 liter with distilled water.

To illustrate the pharmacological properties of the substances comprising in combination an organo-silicon compound as stated hereinabove and metals in accordance with the invention, there are described hereinafter examples of pharmacological tests relating to the treatment of cardiovascular diseases and certain troubles of cellular mitosis (particularly cancer) in man.

## TEST 1

Beatrice ART . . . has a very extensive epitheliomatous invasion of the left lung detected by radiological and tomographic examination. The course is carried out in the following manner for two months using the substance as in example 1 hereinabove:

daily compress for eight hours., dabbing of the forearms four times per day.

Further radiological examination carried out two and a half months afterwards indicates significant regression of the lesions and a clear clinical improvement.

The course is continued for a further month.

A further radiographic examination indicates disappearance of pathological signs.

Three years later the patient is still in good health.

## TEST 2

Henri AUG . . . has continuous pain in the lower left thorax, accompanied by respiratory difficulty and a dry cough. Clinical examination shows shrinkage of the left hemithorax; radiography shows a large and irregular mass in the left lung and numerous localized sites of decalcification of the ribs. A costal biopsy shows invasion by neoplastic epithelial formations.

The course is carried out in the following manner for three months using the substance as in example 2 hereinabove:

daily compress for eight hours;  
dabbing of the forearm four times per day;  
twenty-five ionokinesis treatments.

After three months radiographs show total melting away of the pulmonary mass and recalcification of the ribs.

The course is continued for three months.

After three years the condition of the patient is satisfactory.

## TEST 3

Lucien DAV . . . has for a few years suffered from precordial pain on walking and exertion, for which he is obliged to take trinitrine in amounts of three to six tablets per day.

The course is carried out in the following manner for two weeks using the substance as in example 3 hereinabove:

daily compress for eight hours;  
dabbing of forearms three times per day.

After fifteen applications, the painful attacks are seen to disappear and the patient stops taking trinitrine.

The patient continues with local maintaining applications twice per week.

After three months the condition of the patient is satisfactory. The electrocardiogram is normal

## TEST 4

Raoul TRA . . . suffers diffuse epigastric pains interspersed with paroxysmal episodes.

Clinical examination shows a subicterus. Surgical investigation shows neoplastic invasion of the pancreas.

By virtue of the extent of the lesions, the surgeon decides not to take further action and closes the incision.

The course is carried out in the following manner for one month using the substance as in example 4 hereinabove:

daily compress for eight hours;

dabbing of forearms four times per day. At the end of a month the treatment leads to disappearance of the subicterus and pain.

The course is continued for several weeks.

After one year the patient is in good health.

## TEST 5

Marcel DUR . . . has suffered a myocardial infarction. The electrocardiogram shows signs of posterior infarction and he suffers residual angina pectoris characterized by precordial pain on walking and exertion.

The course is carried out in the following manner for three months using the substance as in example 5 hereinabove:

a daily compress for eight hours;

dabbing of the forearms three times per day;

twenty ionokinesis treatments.

After this course, signs of ischemia disappear; there remain on the electrocardiogram only discrete signs of posterior necrosis.

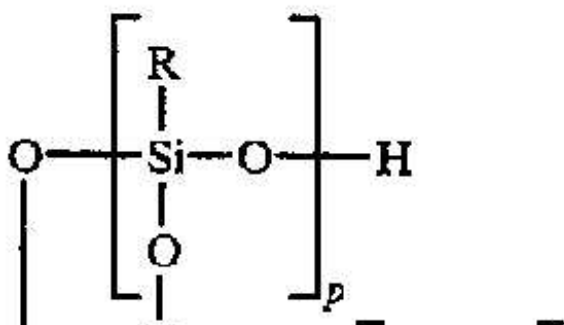
Maintaining applications are continued at the rate of three per week.

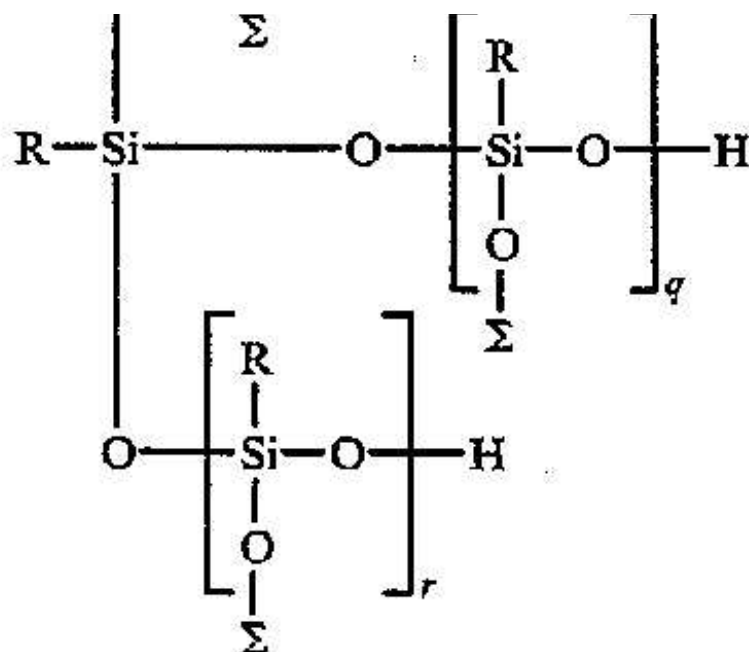
After six months the electrocardiogram is again normal and the state of health of the patient is satisfactory.

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US5391546

Composition comprising organo-silicon compounds for therapeutic use





Also published as: EP0228978 (A1) EP0228978 (B1) GR3002313 (T3) FR2591890 (A1) FR2591890 (B1) more

## Abstract

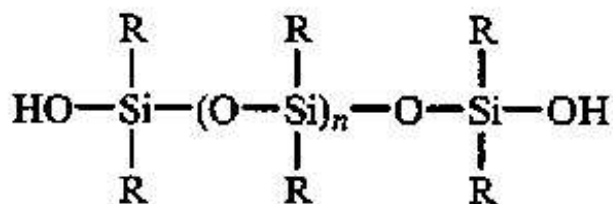
This invention discloses a pharmaceutical composition comprising organo-silicon compounds and sodium or magnesium hyposulfite. The composition is effective at treating asthma and manifestations of allergy in general, sinusitis, herpes, viral hepatitis, and viral diseases in general.

This invention relates to new compositions for therapeutic use, particularly useful for the treatment of asthma and manifestations of allergy in general, as well as sinusitis, herpes and viral hepatitis, Herpes Zoster and viral diseases in general in man.

Organo-silicon compounds have already been used in human therapy for numerous years.

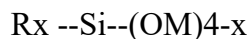
These water-soluble, atoxic compounds easily pass through the epidermis and dermis by local application (GUEYNE, DUFFAUT and QUILICHINI, Therapie, 1962, 17, 417).

Numerous therapeutic properties of organo-silicon compounds used alone have been described in several patents (in particular French patents published under No. 2,158,068, 2,160,293 and 2,230,376, which are incorporated herein by reference).



French patent No. 2,230,376 describes organo-silicon compounds according to the formula: ##STR1## wherein R is an aliphatic, aromatic, cyclic or heterocyclic group; and

n is a whole number between 0 and 20. French patent No. 2,158,068 describes organo-silicon compounds according to the formula:



wherein

R is alkyl, acyl or aryl;

x is a whole number between 0 and 3; and

M is a hydrogen atom or an alkali metal.

These organo-silicon compounds are administered, according to the above patents, by the intramuscular or intravenous route, or else by electrophoresis, the active principle then being in solution in water (isotonic solution), possibly with addition of an alcohol or a polyalcohol, such as glycerol, and/or a sodium salt of a pharmaceutically acceptable organic acid.

It has already been demonstrated in particular in the above patents that certain substances of various natures potentialise and broaden the action spectrum of organo-silicon compounds.

It has now been unexpectedly found that a new composition for therapeutic use can be made by combining in the appropriate proportions one or several organo-silicon compounds with sodium or magnesium hyposulfite (or thiosulfate).

It has also been found that compositions of this type are quite particularly useful against asthma and manifestations of allergy in general, sinusitis, herpes and viral hepatitis, Herpes Zoster and viral diseases in general, against which they have a specific action, and that the compositions thus made can be administered simply by the transcutaneous route in man and animals.

The first object of the invention is a composition for therapeutic use particularly useful for the treatment of asthma, sinusitis, herpes and viral hepatitis among others, wherein it includes in aqueous solution:

(1) at least one organo-silicon compound represented by either of the two formulas: ##STR2## where:

n is a whole number between 1 and 1000 and, preferably, between 1 and 50;

p, q, r are whole numbers between 0 and 1000 and, preferably, between 0 and 60;

R and R' representing, independently of one another, a saturated or unsaturated linear, branched or cyclic group and possibly including heteroatoms, or an aromatic, heteroaromatic, arylaliphatic, or heteroarylaliphatic group, possibly substituted by functional groups, it being possible also for R to be OH, OR or OSiR<sub>3</sub>.

.SIGMA. being R or H or SiR<sub>3</sub> ;

.SIGMA.' being chosen from R and more particularly CH<sub>3</sub> or OR, or OH or OSiR<sub>3</sub>, (where R is such as is described above), or alkali metal or addition salts with a pharmaceutically acceptable acid, of said compound, the organo-silicon compound(s) being used at a concentration varying between 10<sup>-5</sup> and 10<sup>-1</sup> atom-gram of silicon per liter and more particularly between 10<sup>-4</sup> and 10<sup>-2</sup> atom-gram/liter of water, and

(2) sodium hyposulfite (Na<sub>2</sub> S<sub>2</sub> O<sub>3</sub>, 5 H<sub>2</sub> O) or magnesium hyposulfite, the ratio of (1) to (2)



being 5 to 50 g of hyposulfite per liter of organo-silicon solution, preferably about 20 g/liter of organo-silicon solution.

It is noted that the compounds disclosed in French patent Nos. 2,230,376 and 2,158,068 fall within the scope of the above-described formulae for the organo-silicon compound.

As a variant, the composition according to the invention can also include in an appropriate proportion to neutralize or possibly stabilize these compounds one or several organic acids (or their salts, in particular their alkali salts), such as for example salicylic acid, citric acid, propionic acid, aspartic acid, glutaric acid and/or glutamic acid. However, it should be noted that salicylic acid must not be used for the treatment of patients allergic to phenols and salicylic acid in particular and that, in such an eventuality, this acid may quite well be replaced by citric acid or its salts, as is shown later in the examples.

An organic acid or its salt is used in concentrations varying between  $10^{-5}$  and  $10^{-1}$  molecule-gram or more per liter, particularly between  $10^{-2}$  and  $10^{-4}$  molecule-gram per liter.

In all cases, it has found to be preferable for the pH of the solution to be between 3 and 7, or, better, between 3 and 5.

The organo-silicon compounds represented by the above formula are products known in themselves.

To make compositions according to the invention use can be made either of those available in commerce, or their known precursors, which yield them by hydrolysis, such as for example silazanes or corresponding alkoxysilanes (see in particular document FR-A-2,230,376 on this subject).

Sodium or magnesium hyposulfite may be combined with organo-silicon compounds by addition to a suitably proportioned solution of these, either in its solid state or in the form of a suitably proportioned aqueous solution, either originally or during application and in particular during the utilization of the compositions according to the invention for therapeutic purposes.

The composition according to the invention may therefore consist either of a unique product containing the organo-silicon compound and the hyposulfite, or a two-component product containing separately the organo-silicon compound and the hyposulfite, whose mixture can then be freshly prepared just before use.

The composition can be made available to users in bottles or ampoules which constitute unit doses containing a quantity of product dosed for each administration.

The unit doses of the complete composition recommended for each transcutaneous administration are advantageously  $10\text{ cm}^3$ .

The compositions can be supplemented by neutralizing agents and/or preservatives compatible with the active principles, such as those indicated above, as well as by other constituents, such as dyes, perfumes or other excipients, which the man skilled in the art is able to choose and incorporate as needed according to his knowledge of the subject matter.

From trials carried out in man, it has been established that the application of organo-silicon compounds combined with sodium or magnesium hyposulfite to the skin, for example, by dabbing compositions according to the invention, has a transcutaneous action exerting a pharmacologically effective action against attacks of asthma and manifestations of allergy in general, sinusitis, herpes, viral hepatitis, Herpes Zoster and viral diseases in general.

Trial results have shown that compositions according to the invention are particularly indicated and exceptionally effective without having any appreciable toxicity (as will be shown later), for the treatment and/or the prevention of asthma, headaches and manifestations of allergy in general, sinusitis, herpes, viral hepatitis, Herpes Zoster and viral diseases in general.

As an indication, the utilisation modes that can be recommended are:

Application of a cotton compress (about 5 cm by 7 cm) soaked with the composition according to the invention to the painful or deficient area or any other part of the body. The compress is covered with a sheet of plastic material or any other material that can preserve the moisture by preventing evaporation. The compress is applied for a period of between 8 and 12 hours per day (or overnight, for example).

Massage with a composition according to the invention applied in the form of a cream according to a known technique.

Dabbing the cutaneous area with a pad soaked with the composition according to the invention.

This dabbing is carried out 2 to 4 times a day, for example, on the forearm, where the blood vessels are more apparent. For it has been demonstrated that the composition according to the invention easily passes through the epidermis.

The composition can also be applied simultaneously, locally or not, by ionokinesis, to the painful or deficient area.

The ionokinesis apparatus consists of a direct current generator (about 10-15 milliamperes), provided with a device for establishing or shutting off the current gradually and maintaining a constant amperage for the duration of a session.

The amperage is gradually brought to 10 mA and maintained for 20 minutes before being gradually lowered and then turned off.

In certain cases the amperage can be raised up to 25 mA, it then being possible for the duration of the session to be up to 30 minutes.

The generator is connected to two carbon electrodes or other commonly employed materials for electrodes used in ionokinesis treatments. Although the surface area of the electrode may be very variable, it is commonly of the order of 200 cm<sup>2</sup>.

Each of the electrodes is surrounded by cotton-wool which is impregnated with the composition according to the invention.

The electrode connected to the negative pole of the generator is applied to any part of the body, but preferably to the deficient or painful area. It is maintained in contact with the bandage.

The other electrode, connected to the positive pole of the generator, can be applied to any place on the skin or simply held in the hand, the contact surface area being as large as possible. In certain particular cases, the polarity of the electrodes is reversed during a session.

It should be pointed out that a treatment requires 10 to 30 sessions at 24 to 72 hour intervals, the most common rate being 2 to 3 sessions per week.

The treatment is absolutely painless. However, some susceptible subjects experience a prickling sensation near the electrodes during sessions. No local or general reaction of the organism has

been noted except slight erythema in the electrode application area.

However, when a subject is slightly allergic to phenolic derivatives, a solution not containing this type of derivative must be chosen.

Intramuscular injection may also be given.

To assess the acute toxicity of a potassium methylsiliconate+sodium hyposulfite composition, the following experimentation described hereinafter was carried out. The composition administered was in the form of 1.5% (weight/volume) aqueous solution. The experimentation consisted in determining the LD50 for female mice by sub-cutaneous administration. It was conducted under the conditions described below:

## **I-Animals**

150 Swiss race female mice of 30 g average weight were taken from a batch of animals that had been received fifteen days ago, and therefore well-accustomed to the animal house.

They were divided into 6 batches of 25 animals and numbered from 1 to 25 within each batch, the batches themselves being identified by the letters A to F.

The animal house conditions were as follows:

feed and beverage: ad libitum

type of feed: commercial complete feed (Extra Labo)

average temperature: 21 DEG C.

relative humidity: 73%

experiment start time: 9 hours

## **II-Doses administered**

It was established from a preliminary experiment performed on some 25 animals that doses of between 30 and 40 ml/kg showed a greater or lesser mortality resulting in the following doses being selected:

25 ml/kg, or 375 mg/kg of potassium methylsiliconate+sodium hyposulfite for Group A;

30 ml/kg, or 450 mg/kg of potassium methylsiliconate+sodium hyposulfite for Group B;

35 ml/kg, or 525 mg/kg of potassium methylsiliconate+sodium hyposulfite for Group C.

40 ml/kg, or 600 mg/kg of potassium methylsiliconate+sodium hyposulfite for Group D;

45 ml/kg, or 675 mg/kg of potassium methylsiliconate+sodium hyposulfite for Group E;

50 ml/kg, or 750 mg/kg of potassium methylsiliconate+sodium hyposulfite for Group F.

Subcutaneous injection was chosen as the mode of administration.

## **III-Results**

BATCH A: No mortality, nor any external sign of toxicity appeared, neither immediately after administration, nor subsequently, that is, during the fifteen days for which the animals were kept under surveillance. The behaviour and general condition of these were quite normal.

BATCH B: Just as for Batch A, no mortality, nor any behavioural trouble were observed. Their general condition was excellent during the period following administration of the potassium methylsiliconate+sodium hyposulfite composition.

BATCH C: 6 animals of this group had died under comparable circumstances and in times ranging from 45 minutes to 90 minutes after administration. The clinical ante-mortem signs were prostration, need for isolation, dulling of the fur and onsets of shivering (more or less

violent, but without convulsions) starting 15 to 20 minutes before death, which was preceded by a few accentuated bounds.

Post-mortem examination showed that all the internal organs had a normal appearance: in particular, the liver, spleen, pancreas, kidneys and adrenal capsules did not reveal any visible anomalies. However, it was noted that the bladder was regularly empty and that the heart had stopped in the systole position. The lungs were slightly pinkish. There was no particular sign at the injection point.

The majority of the surviving animals did not appear to have been affected by the product. Three showed slight signs of discomfort, which soon died away. However, the fur of all the animals of this group was dull for 24 hours.

Thereafter, the behaviour and general conditions of the surviving animals reverted to normal for fifteen days after administration.

BATCH D: 11 animals of this group died under conditions and in times identical with those of Group C. The ante-mortem clinical signs and post-mortem anatomical examinations were quite comparable to these. Four animals showed transient signs of discomfort. The fur of all the surviving animals had a dull appearance for 24 hours; thereafter, their behaviour and general condition were completely normal during the observation period.

BATCH E: 14 animals of this group died under conditions and in times identical with those of the preceding groups, with quite comparable clinical and anatomical pictures.

Two animals showed momentary discomfort. All the survivors had a dull fur for 24 hours. Thereafter, as for the survivors of Batches C and D, complete normalization of behaviour and general conditions were noted throughout the observation period.

BATCH F: In this group 17 animals died under circumstances and in times comparable to those of Groups C, D and E.

The ante-mortem behaviour noted and the post-mortem examinations showed that the observations were an exact copy of those of the preceding groups. Four animals showed momentary discomfort.

All the survivors had a dull fur for 24 hours. They then reverted to completely normal behaviour and general condition during the observation period.

Following the observation period of fifteen days, all the animals surviving these trials were alive and in good health after a period of one month.

#### **IV-Discussion and interpretation of results.**

From this experimentation, it was possible to calculate the percentage mortality in accordance with the dose administered:

Batch A mortality: 0%

Batch B mortality: 0%

Batch C mortality: 24%

Batch D mortality: 42%

Batch E mortality: 56%

Batch F mortality: 67%

The subcutaneous LD<sub>50</sub> for the mouse was therefore well between two points below and two points above its value. The probit/log chart (percentage mortality against logarithm of dose in

mg/kg) plotted from these results enabled the LD50 to be established at 645 mg/kg for the composition of the invention tested.

In addition, it has been possible to determine a limit at which the first reversible signs of toxicity appear, such as somnolence and need for isolation. This limit was evaluated at 380 mg/kg.

## **V-Conclusion**

The compositions according to the invention are seen to be little toxic, since the doses which are recommended to be used for therapeutic purposes are hundred times lower than the dose which causes the first signs of toxicity to appear.

The invention is described and illustrated in detail in the examples hereinafter, which in no way limit it and which include all the information concerning the compositions and their preparation and the properties revealed by pharmacological trials relating to various diseases in man.

### **EXAMPLE 1**

J. R., suffering from herpetic keratitis with ulceration of the cornea, intense lacrymation and major vasodilation of the conjunctiva, was treated with cortisone eye wash, without any result.

For three days, two daily eye baths were given with a solution according to the invention consisting of the following:

1 g of salicylic acid was introduced into a 1-liter beaker and 700 ml of distilled water added to it.

Onto this solution was poured slowly, while stirring vigorously, 1.2 ml of 45% dry extract solution of potassium methylsiliconate.

The solution was brought to a pH of 4.7 and made up to 1 liter with distilled water. 20 g of sodium sodium hyposulfite were then added.

Following the application of this treatment, with a solution made isotonic and buffered, the inflammation disappeared in 24 hours and cicatrization was found to be complete after 7 days.

Examined again after three months, the patient did not show any after-effects.

### **EXAMPLE 2**

Mrs. L. Z. very frequently (about twice a month) suffered from a hepatic eruption on the upper lip.

A series of local applications were made with a cotton-wool pad soaked with the solution of the composition according to the invention, made as follows:

1 g of citric acid was introduced into a 1-liter beaker and 700 ml of distilled water added to it. Onto this solution was poured slowly, while stirring vigorously, 1.7 ml of a solution of 45% dry extract potassium siliconate. The solution was brought to a pH of 4.7 and made up to 1 liter with distilled water. 20 g of sodium hyposulfite were finally added to the whole.

At a rate of three applications of a cotton-wool pad soaked with the above composition, cicatrization was found to have taken place without any visible trace remaining after 7 days, and no recurrence was noted after a waiting time of three months.

### **EXAMPLE 3**

Mr. M. L. had contracted recurrent genital herpes which affected the glans and prepuce.

A series of local applications to the lesion were made using a solution of the composition according to the invention, made as follows: 1 g of citric acid was introduced into a 1-liter beaker and 800 ml of distilled water added to it. Onto this solution were poured gradually, stirring vigorously, 2.5 ml 30% dry extract sodium methylsiliconate. The solution was brought to a pH of 4.7 and made up to 1 liter with distilled water and 20 g of sodium hyposulfite added.

Three local applications were made daily by dabbing with a cotton-wool pad soaked with the solution described above.

After a week of this treatment, it was found that the eruption had disappeared, without leaving any visible trace. After three months, there were no signs of recurrence.

#### **EXAMPLE 4**

Miss L. B., with recurrent herpes of the vulva suffered every month a painful eruption with major oedema affecting the labia minor and the labia major one week before menstruation.

A series of local applications to the lesion were made using the composition according to the invention, made as follows:

Into a 1-liter beaker containing 500 ml of water, previously cooled with crushed ice, were introduced slowly, while stirring vigorously, 0.65 g of dimethylchlorosilane and 0.85 g of sodium bicarbonate. A check was made that the pH was about 7. The solution thereby obtained was homogeneous.

1.1 g of sodium salicylate was added slowly, while stirring vigorously. The solution was brought to a pH of 4.7 and made up to 1 liter with distilled water, and finally 20 g of sodium hyposulfite were added.

Two local applications were made daily during the eruptive phase by dabbing with a pad of cotton-wool soaked with the solution described above. The patient experienced very rapid relief, and the oedema disappeared in a few days.

In the following three months there was no irruption during the pre-menstrual period.

#### **EXAMPLE 5**

Mr. R. B. was suffering from a sudden onset of jaundice. Laboratory analyses confirmed the diagnosis of viral hepatitis. The transminases level was high: 1100.

A cotton-wool compress soaked with composition according to the invention, covered with a plastic sheet, described above in Example 3 was applied in the region of the liver. This compress was maintained in position for ten hours per day.

After six days, the jaundice had definitely regressed, and the transminases level dropped to 50.

After two months, the patient no longer showed any clinical or biological sign of hepatitis.

#### **EXAMPLE 6**

Mr. E. F. suffered from attacks of nocturnal dispnea with suffocation.

Seven applications were made by dabbing his forearm in the evening before he went to bed with a cotton-wool pad soaked with the composition according to the invention, described in Example 1. These applications were combined with nasal instillations with the same solution.

It was found that attacks decreased in intensity after 4 days and gradually ceased altogether.

A maintenance treatment of one application per week was continued for two months. In addition, the patient was advised during this period to resume dabbing (combined with nasal instillation) if there was the least breathing discomfort, as a preventive measure.

After three months, the patient no longer suffered from any attacks and the disease had not shown any signs of recurrence for eight months.

#### **EXAMPLE 7**

Mrs. B. P. had undergone a series of examinations which had revealed viral hepatitis. Among these, chemical analyses of the blood in particular gave the following results:

Transminases:  
S.G.O.T: 1290 IU/l  
S.G.P.T.: 2170 IU/l

The patient then underwent treatment with the composition according to the invention such as is described above in Example 1, consisting of massage of the region of the liver, 4 times a day, with a cream made with this composition.

Five days later the results of the blood analyses were the following:

Transminases:  
S.G.O.T.: 50 IU/l  
S.G.P.T.: 210 IU/l

#### **EXAMPLE 8**

Mrs. Y. L. had suffered from sinusitis for several years. Although during this period she had had several operations (removal of tonsils, ablations of adenoids) and various treatments and examinations without any durable results.

After a further major attack against which conventional treatments had not given any appreciable result, the patient was given treatment by a first application of the composition according to the invention as described in Example 2 above, by rubbing the top of the nose with a cream made with this composition. This application was repeated 4 times a day. One hour after the first application nasal discharges obliged the patient to blow her nose continuously up to evening. As early as the following day the patient felt "freed" and breathed normally. No further attack of sinusitis has been recorded since then

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