Are they missing nutrients ?



ASCOGEN®

naturally supports …
… Performance
… Health
… Stress management

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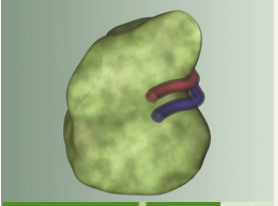
We have your performance in mind

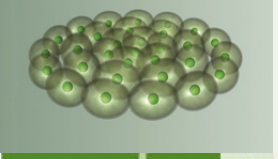
1. PSB-Complex® – The missing link in contemporary animal nutrition



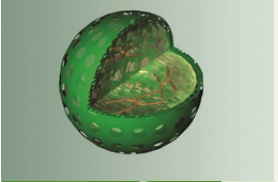
1.1

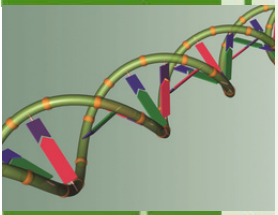
Parasitic and pathogenic infections, injuries, wide-ranging stress and inadequate feed quality tax an animal's natural defences and lead to underperformance or death. This, ultimately, has negative economic consequences for farmers. The need for an optimized nutrition program that includes essential dietary components becomes paramount in order to augment the metabolic or catabolic autogenous supply.
To compensate for past deficiencies, today's animal diets need to be increasingly complemented by essential nutrients vital to overall health and optimal performance.

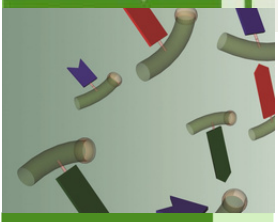




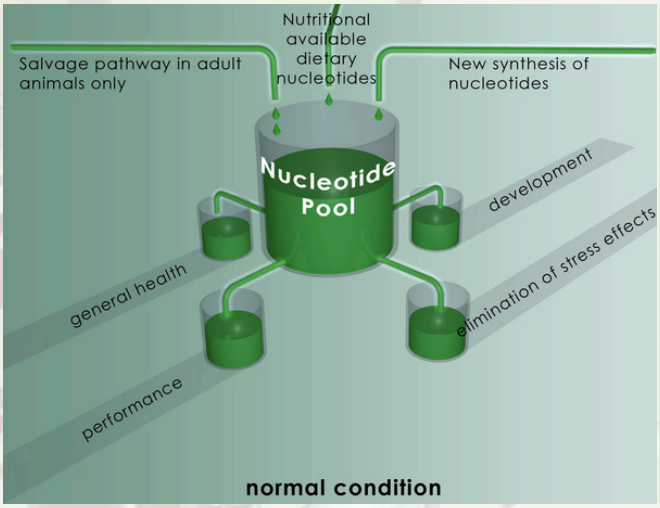








1.3

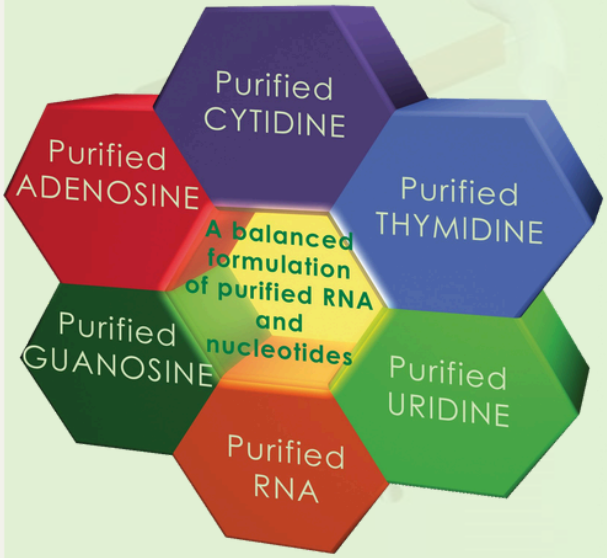


Under normal conditions the supply of nucleotides is guaranteed through autogenous metabolic or catabolic processes. The de novo synthesis of nucleotides, or the reuse of nucleic acids from dead cells (so-called "salvage pathway") and the metabolically available dietary nucleotides allow to meet even temporary peaks in the demand for nucleotides without losses in performance.

Additional information available on www.chemoforma.com

1.2

PSB-Complex®



CHEMOFORMA has developed exclusive and distinctive feed supplement formulas that contain **PSB-Complex®**. This facilitates and accelerates the multiplication of cells to effect repair of damaged tissue and organs or help overcome a debilitating condition or disease.
PSB-Complex® products are contemporary management tools that support and enhance healthy development, growth and performance in agricultural livestock, fish and crustaceans and high performance and companion animals.

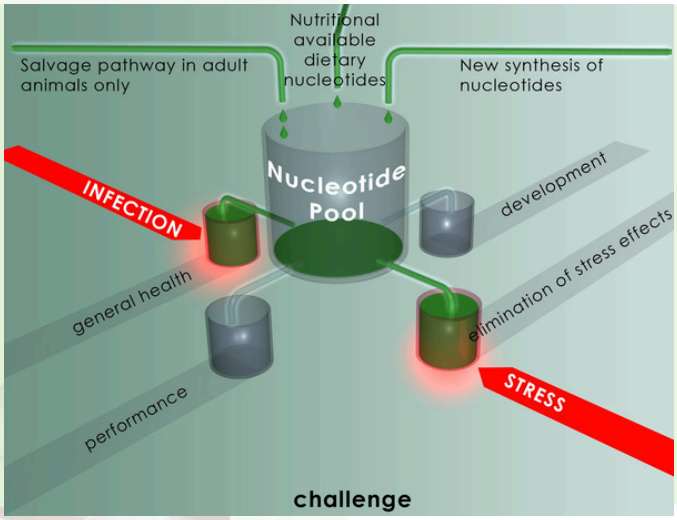
Active ingredients of all CHEMOFORMA products

The **PSB-Complex®** products of CHEMOFORMArepresent a unique class of feed supplements. They excel because of their proprietary formulation of purified RNA and purified nucleotides. The purity of the nucleic acids facilitates the uptake of these conditionally essential nutrients in the intestinal tract and their unrestricted availability for every multiplying cell. The **PSB-Complex®** products are specific to the needs of animal species and feed variations.

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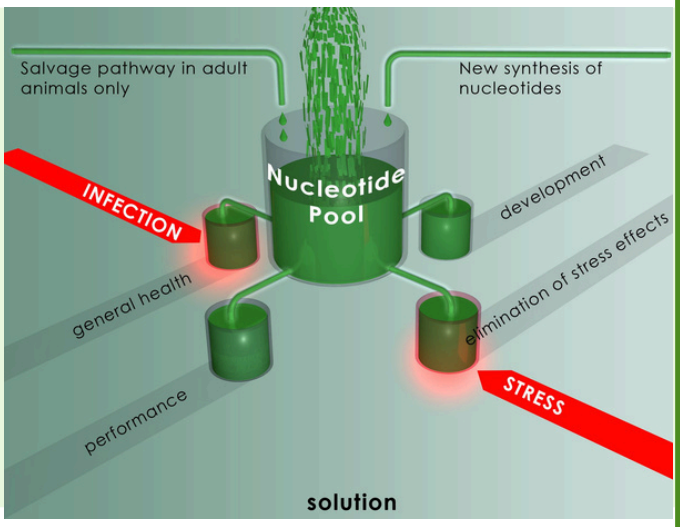
We have your performance in mind

1.4



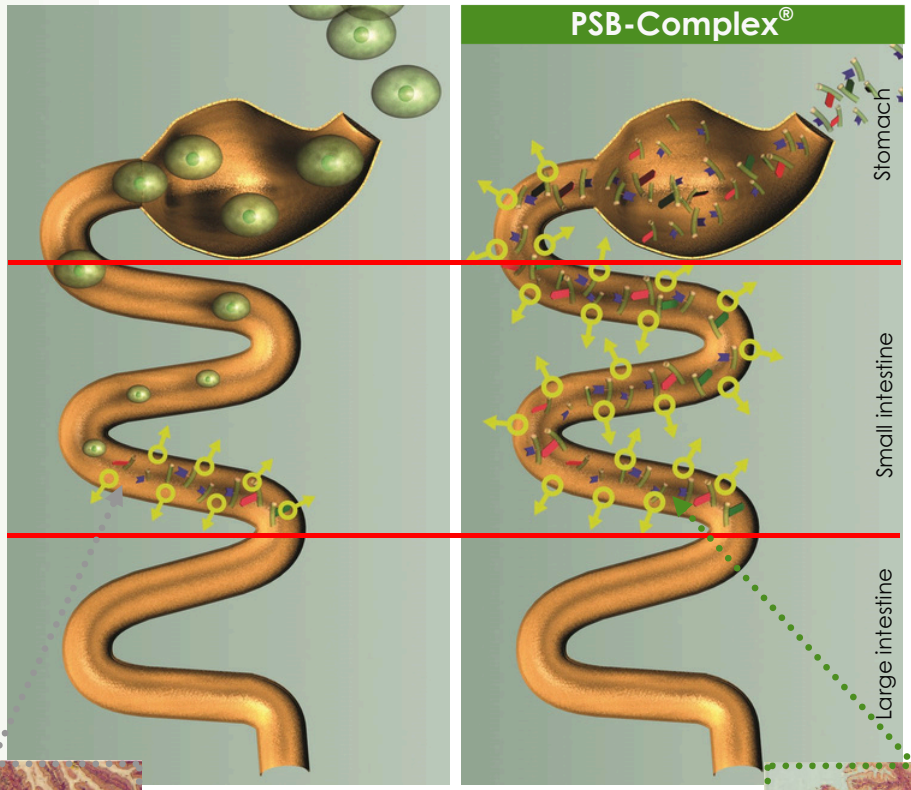
Under detrimental conditions universal in modern agriculture, aquaculture or animal husbandry, the supply of nucleotides cannot be guaranteed by internal resources. An effective reaction to health challenges or regenerative activities can only be guaranteed at the expense of performance as there are not enough nucleotides available for growth, reproduction or development.

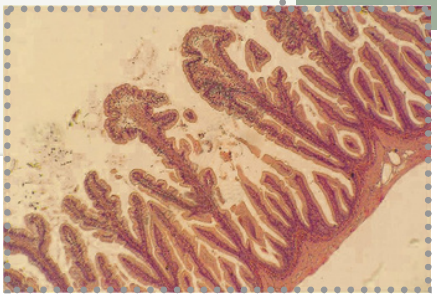
1.5 PSB-Complex®

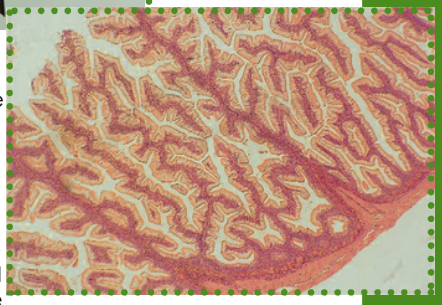


Supplementing feed with CHEMOFORMA's **PSB-Complex®** products replenishes the internal pool of nucleotides and thereby supports performance, even under adverse conditions. **PSB-Complex®** is a management tool to maintain general health, enhance performance and manage the harmful effects of stress.

1.6







Compared to normal feed, the unique formulation of the **PSB-Complex®** tailored for different species allows a facilitated uptake of the active ingredients in the small intestine and a rapid availability for every cell in need of these building blocks of life. This ensures optimized general health as well as improved development and performance. An immediate effect of dietary **PSB-Complex®** becomes ap- parent when examining intestinal structures. The elongation of intestinal villi and the increase in intestinal surface area help contribute to improved feed uptake and feed conversion. Supplementing feed with the **PSB-Complex®** augments the nutritional value of feed while reduces costs through benefits.

2. Trials in Poultry



ASCOGEN®

2.1

The positive effects of **PSB-Complex®** were monitored in numerous field and laboratory trials, some of which are illustrated here. For additional and detailed trial reports please refer to www.chemoforma.com.

2.2
ASCOGEN® positively affects performance and intestinal development of broilers

In this trial the performance of the **ASCOGEN®** group exceeds the control group. Throughout the whole trial, the broilers fed with **ASCOGEN®** fortified feed grew faster and achieved a higher final body weight at slaughter. Compared to the control animals, the development of the intestinal villi in the test group was accelerated. The average length of intestinal villi achieved in the control after 14 days was accomplished in the trial group at day 10. Similar results were obtained for the circumference of the villi. In general, the test animals completed the intestinal development 4 days earlier than the controls. This advance is retained throughout the life of the animals and is reflected in improved performance. Moreover, the intestinal defence mechanisms are established faster which, therefore, achieves an earlier protection from bacterial or viral infections as well as parasitic attacks.

Length of villi (µm)

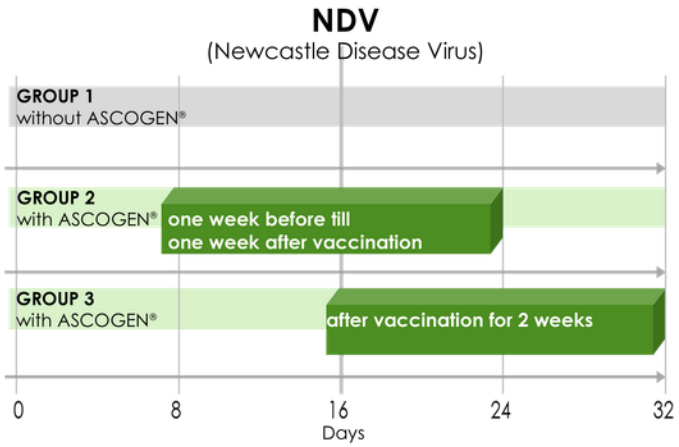
Age	ASCOGEN®	Control	Difference
10 days	170.626 ± 0.270	121.594 ± 0.276	+ 40.32%
14 days	179.179 ± 0.106	170.030 ± 0.160	+ 5.37%

Circumference (mm)

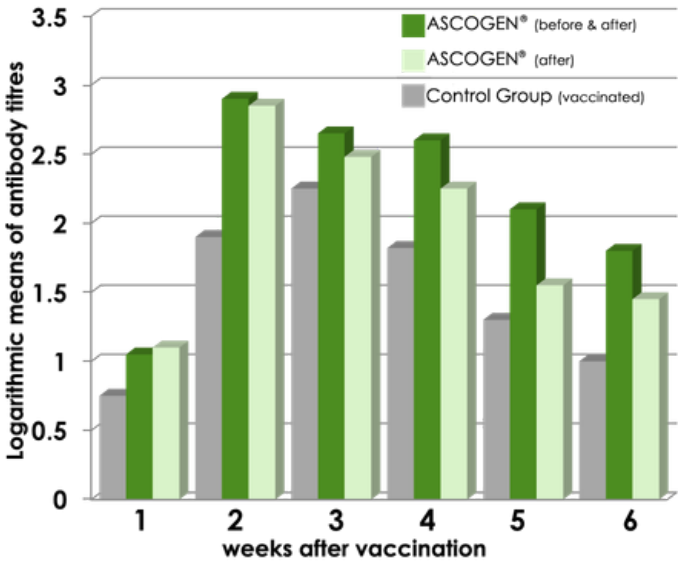
10 days	23.18 ± 3.65	15.62 ± 3.72	+ 48.39%
14 days	24.88 ± 5.57	24.96 ± 5.10	0.00%

Age	ASCOGEN®	Control	Difference
10 days	185.9 g	171.3 g	+ 8.52%
22 days	716.7 g	681.4 g	+ 5.18%
35 days	1'620.0 g	1'570.0 g	+ 3.18%
44 days	2'368.0 g	2'178.0 g	+ 8.72%

2.3
ASCOGEN® improves the immunity



This trial was carried out with day old male Hubbart Chicks. The control group did not receive any **ASCOGEN®**. The second group received 500 g of **ASCOGEN®** / tonne of feed 8 days before and 8 days after vaccination against NDV. In the third group, the feeding of **ASCOGEN®** (same inclusion rate) was started at the day of vaccination for the next 16 days.



The course of specific antibody titres was monitored during the following weeks. It became obvious that aside from feeding with **ASCOGEN®**, the specific antibody titres were increased in both trial groups compared to the control. The effect was most pronounced in the group fed **ASCOGEN®** one week prior to vaccination.

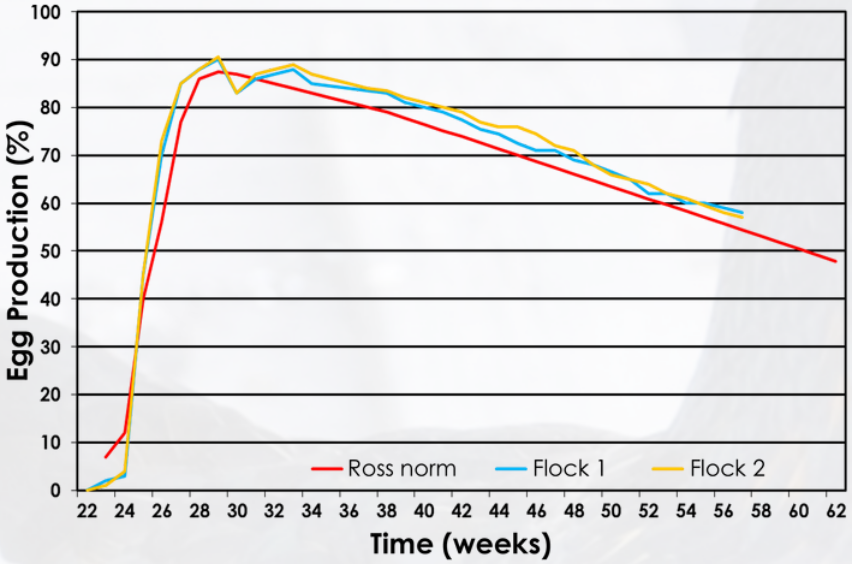
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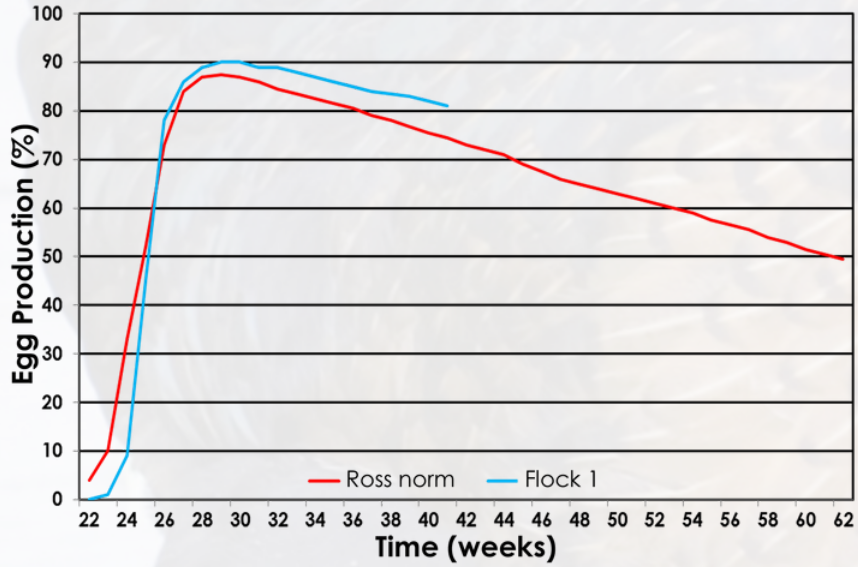
In a challenge experiment with birds from each trial groups, the protection against a virulent NDV was tested. 65% of the birds of the control group were protected from an infection with virulent NDV whereas the protection in the **ASCOGEN®** groups was 80% (**ASCOGEN®** after vaccination) or 90% (**ASCOGEN®** before and after vaccination) respectively.

2.4
ASCOGEN® optimizes the genetic potential

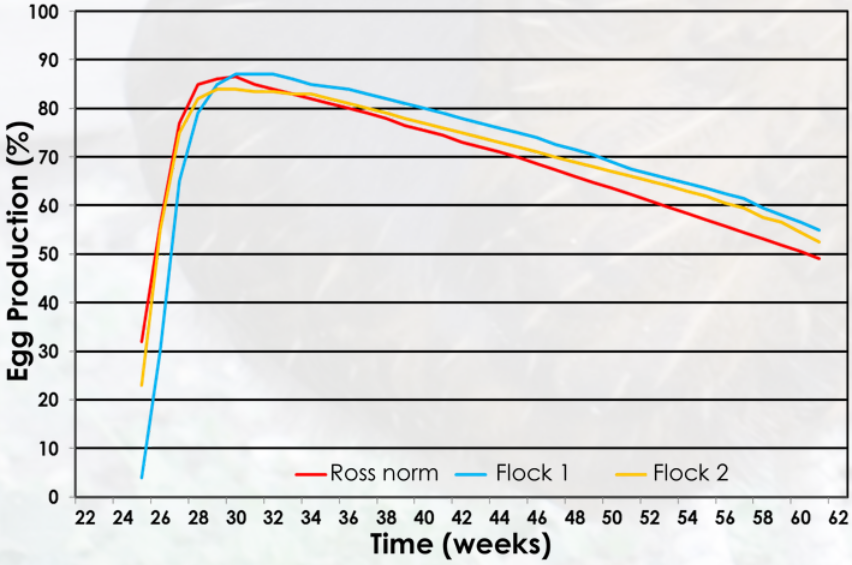
Only farms with highly skilled management can achieve the performance target norms of the breeder companies. In these trials, the flock succeeded the norm of the breeder companies in terms of egg production % and laying persistency. The inclusion of **ASCOGEN®** in the diets enabled the farmer to accomplish the target norm of the breeding companies and fully utilise the genetic potential of the breed.
It needs to be noted that the weight of the birds on **ASCOGEN®** has to be carefully monitored and the feed adjusted to support the high egg production and prevent the birds from becoming overweight.



On *Farm 1* the egg production % of the two different flocks have comparably responded to the feed (including **ASCOGEN®**) and management support. In weeks 29-31 a heat wave of 38°C caused a drop in egg production in both flocks but they recovered very quickly due to the influence of the **ASCOGEN®**. The average feed usage per egg in this trial was 252 grams and the productivity exceeds the norm by 2.5 %.



The egg production on *Farm 2* significantly exceeds the breed norm by more than 6.5%. Moreover a reduction in mortality and an improvement in feed con- version ratio have been achieved.



Both flocks on Farm 3 respond and perform closely to each other and are 6% above the breed production norms. The feed inputs and flock management are able to replicate a uniform performance response. Hatchability and feed effi- ciency continue to improve compared to the breed norms. Moreover, **ASCOGEN®** leads to reduction in mortality of the birds on this farm.



ASCOGEN®

3.1
ASCOGEN® an exceptional feed supplement

ASCOGEN® is a unique formulation of purified RNA and purified nucleotides.
Although not yet defined as essential nutrients, numerous scientifically confirmed trials demon- strated that purified nucleic acids must be re-garded as a management tool to control stress and disease while maintaining or enhancing performance in agricultural livestock.

Having been successfully used in all such applications, and more, they foster development, participate in cellular and molecular repair mechanisms and ensure unhindered cell proliferation without affecting growth, development or re-production upon environmental, physical and pathogenic challenges.

3.2
Intructions for use:

Ascogen® S is added to complete animal feed at the following inclusions as recommended by a nutritionist:

- Poultry:
  - Broiler, laying hens, broiler- & layer breeders..... 300 g/ton (the entire rearing & laying period)
  - Broiler Starters..... 600 g/ton (from day 1 to day 10)
- Swine:
  - Sows, pigs & finisher pigs..... 250 g/ton (for the entire cycle)
  - Piglets (pre-wean)..... 1250 g/ton
  - (post wean)..... 600 g/ton
- Ruminants:..... 1250-1500 g/ton (for the entire life cycle)

Ascogen® S should be given to individually fed ruminants & horses at the following amounts:

- Adult Ruminants:..... 700 - 1500 mg per 100 kg liveweight per animal per day
- Calves:..... 1000 - 1500 mg per 100 kg liveweight per calves per day
- Horses:..... 10-20 g per horse per day (or equivalent mixed into the feed)

The optimal insertion rate of **Ascogen® S** can also be determined experimentally.

3.3
Withdrawal period

None

3.4
Stability

ASCOGEN® S is heat resistant and can be mixed with feed before pelleting or extruding.

3.5
Packaging

ASCOGEN® S is packed in 25kg polye-thylene-lined white 5-ply paper bags

Registration holder & importer

VETPAC Animal Health
Nutrition • Science • Innovation

Reg. V18037
Act 36/1947

Tel: +27 12 803 0319
Email: info@vetpac.co.za
Address: 129 Rooiberg Street, Unit 1 N4 Gateway East, Pretoria, 0184

The Company CHEMOFORMA is a Swiss manufacturer of animal feed specialities.

CHEMOFORMA Ltd. Tel
+41 61 811 33 55
www.chemoforma.com

Rheinstrasse 28-32
CH-4302 Augst Switzerland
www.chemoforma.com

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