



Texture

Systems of Synergy

Stabilising systems for dairy products

Mouth feel

Stability

*Cultured milk products,
dips and spreads*



*Cream and vegetable-based
creams, puddings and desserts*



*Cheese specialities, processed cheese,
reconstituted products*





The market for dairy products is evolving – and so are our ideas.

There is continuous demand for new dairy products. Markets are polarising, with growth driven by the low-price economy and high-price premium categories. Hydrosol monitors the international markets and has a mastery of the complex development processes of food systems.

We see ourselves not just as a supplier of innovative stabilising systems, but also as a source of ideas for new, trend-meeting products that become successful through close cooperation between us and our customers. Our growing team of food technologists and experts works daily to develop combinations of individual ingredients into highly effective functional systems for better food products.

An exchange of ideas with customers in many industries accompanies the process. Our long international experience and expertise in the development of custom solutions underpins our position as a worldwide source of first-class, application-specific stabilising and emulsifying systems.

Our Technology Centre near Hamburg, Germany – a place for creativity and innovation

Our applications-oriented research and development team combines passion, enthusiasm and curiosity. In 3000 square meters of lab space, we create innovative product solutions that improve our customers' products or even make them possible in the first place. In our applications laboratories for various food categories, nutrition technologists, process technicians and scientists analyse, improve and develop new stabilising systems for dairy, meat, deli and fish products.

Close proximity and frequent dialogue accelerate the creation of solutions that are a perfect fit, whose effectiveness we tailor exactly to customer wishes in extensive testing on our various pilot plants. Naturally, we take into account our customers' actual production conditions.



Hydrosol headquarters with Technology Centre, Hamburg

The Stern-Wywiol Gruppe – a unique competence centre for custom ingredients in many industries

Hydrosol is part of the Stern-Wywiol Gruppe, an owner-operated family company active worldwide that is known for its high-quality, tailor-made functional systems. In order to offer global customers excellent service on site, in addition to its Hamburg headquarters the Group has offices in 15 countries and is represented by certified partners in all of the world's key markets. The Stern-Wywiol Gruppe in Germany comprises 12 ingredient companies, whose research and development activities are housed in the Group's own Technology Centre in Ahrensburg near Hamburg.

Here, Hydrosol's experts have all the necessary applications technology equipment and the freedom to think through and test innovative solutions. This naturally takes place in close consultation with customers and dialogue with colleagues in the Group's other specialist companies.

The Experts from the Stern-Wywiol Gruppe: from Single Ingredients to Functional Systems





Research and development: The future belongs to synergies.

In developing stabilising systems that are an exact fit for specific customer needs, we can create the right combinations from among several hundred individual ingredients. Knowing how ingredients interact and how to get the optimum synergistic effects takes a great deal of specialist knowledge and experience.

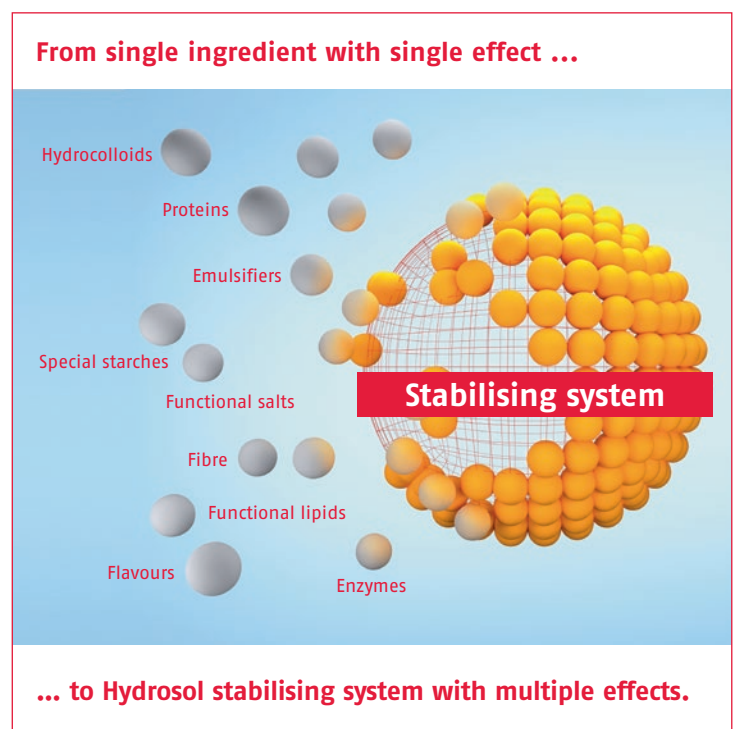
An understanding of the way each component works is vital for quality results. But only a complete knowledge of the customer's manufacturing process and the interaction of all ingredients let us develop the right formulations.

Stabilising systems that are an exact fit – formulation development and improvement

Economy, processing, keeping, texture, stability and mouth feel – almost all the properties of dairy products can be controlled through targeted compounding of ingredients.

The dairy laboratory – we master food systems

The market for dairy products is evolving – not uniformly, but in two main directions. On the one hand there is a demand for gourmet products, whose consumers expect the best in terms of flavour and texture. On the other





Product development and applications technology in over 3000 m²

hand, manufacturers are constantly challenged to create products that are economical without sacrificing quality and flavour.

For both demand cases, our Technology Centre experts work to develop appropriate, targeted stabilising systems that promise maximum enjoyment while greatly reducing the need for expensive raw materials.

Dairy laboratory equipment:

- Continuous aerating machine
- Cheese preparation cooker and emulsifier systems
- UHT system
- Ice cream freezer/soft-serve machine
- Homogenisers
- Steriliser/autoclave
- Rotor-stator systems
- Incubation systems/machines

What you can expect from us:

- **Sale of targeted compounded stabilising solutions**
- **The highest quality**

We provide:

- **Formulation development and improvement**
- **Suggestions for process improvements**
- **The use of our applications laboratories with its extensive test facilities**
- **Assistance in production tests if desired**
- **Training courses and seminars**
- **On-site technical consulting**



We have innovative ideas, and the technology to implement them.

In Wittenburg near Hamburg, Hydrosol operates one of the most advanced compounding lines in Europe. Precision mixing systems and advanced fluidised bed technology enable the production of customer-specific functional systems in the highest quality.

Our production facility in brief:

- Mixing, agglomerating, instantising, coating, drying, spray granulation, grinding
- Precise formulations down to the gramme, with very finely homogeneous distribution
- Various batch and order sizes, flexibly and efficiently
- The highest recipe compliance and top process safety

Our standards and certifications:

- FSSC 22000
- Allergen management
- Kosher and halal management
- Organic seal

Each year, up to 40,000 tonnes of food ingredients, effective ingredient complexes and functional systems leave our facility in Wittenburg. Eight separate mixing lines let us fill orders simultaneously while preventing cross-contamination. Thanks to a central process control and visualisation system, we can mix and reproduce any formulation. Our mixing aggregates with spray and tempering functions let us compound even poorly miscible substances into homogenous premixes.

Our quality management – your assurance of top quality products

Our stabilising systems are made exclusively from selected raw materials. Their quality is tested by internal and external laboratories. To ensure the high functionality of our compounds, all process steps are carefully defined and subject to ongoing monitoring. Customers can be sure that the product they receive meets all quality criteria.



The right stabilising system for any application

Our focus areas



Neutral milk products

- Milk mixed beverages
- Pudding
- Reconstituted milk



Cheese products and analogues

- Pizza topping
- Salad topping
- Spreadable processed cheese preparations



Cultured milk products

- Yogurt, drinking yogurt
- Milk/whey juice beverages
- Cultured whey desserts
- Sour cream, quark, cream cheese



Ice cream

- Milk ice cream
- Confectioner's ice cream
- Soft-serve ice cream



Cream & vegetable-based cream

- Cream & cream products
- Cooking cream
- Vegetable-based whipping cream



Vegan products

- Pizza topping
- Slice-on-slice analogue cheese
- Cooking cream
- Drinks





Neutral milk products

Hydrosol gives desserts textures from light and foamy to creamy, for a pleasant mouth feel. For milk drinks, we make special stabilising systems that create a homogenous suspension.

Beverages

Application	Stabilising system	Properties	Dosing
Reconstituted milk	Stabimuls RMGR	In addition to stability, it also gives a full yet light mouth feel	0.15 – 0.20 %
Mixed milk beverages, vegan drinks	Stabisol GC 4	Stabilisation of suspensions at very low dosages	0.08 – 0.12 %
Flavoured milk beverages in many flavour varieties	Hydrobest Drink	All-in compound with full mouth feel in many different flavours (strawberry, vanilla, banana, cocoa, caramel, raspberry...)	1 %
Cocoa beverages	Hydrobest Drink Kakao	Cocoa drink with creamy yet light mouth feel	5 %

Desserts

Application	Stabilising system	Properties	Dosing
Pudding	Stabisol PCC 2	For very creamy and shiny pudding products	3.5 %
Pudding with chocolate-hazelnut flavour	Hydrobest Pudding Chocolate 01	Full compound with integrated cocoa and flavouring, other flavours also available	6.5 %

Cultured milk products

In cultured milk products, Hydrosol improves process stability and adjusts the desired product characteristics – creaminess, full mouth feel and fine flavour are the hallmarks of our systems.



Beverages

Application	Stabilising system	Properties	Dosing
Drinking yogurt, cultured milk beverages, milk/whey juice beverages	Stabilisol JTA 5	Gives high heat stability and creamy flavour. Can be used flexibly in various applications	0.4 – 0.5 %

Yogurt

Application	Stabilising system	Properties	Dosing
Yogurt, drinking yogurt, sour cream	Stabilisol JRL 10	Can be used flexibly in various applications. Suitable for fresh and pasteurised products	0.8 – 2.1 %
Cultured whey dessert	Stabilisol JOC 2	Stabilisers for products made of whey with yogurt technology, for fresh and pasteurised products	4 – 5 %
Greek style yogurt with 6% protein	Stabilisol JCL 2	Clean label, creamy mouth feel with high fat and protein content	3.8 %

Sour cream

Application	Stabilising system	Properties	Dosing
Sour cream 15% fat, fresh	Stabilisol JSJ	Gives high cooking stability (can be fried) and a creamy mouth feel	1.8 %





Quark

Application	Stabilising system	Properties	Dosing
Pasteurised quark dessert with 4.6% fat	Stabilol QTEH	Protective colloid and texturing	1.2 – 1.5 %
Pasteurised, foamed quark dessert	Stabilol QR 3 B	Protective colloid, texturing, foam stability	0.8 – 1.2 %
Quark pralines	Stabilol PBT 2GN	Better shaping and physical stability throughout shelf life	1.5 – 2.0 %

Cream cheese

Application	Stabilising system	Properties	Dosing
Cream cheese with 12 % or 26 % fat content	Stabilol FKBP	Stabilising system for cream cheese preparations of various fat contents, without gelatine	1.8 %
Cream cheese with 24 % fat content without homogenisation	Stabilol FCG	High firmness without homogenisation	0.7 – 1.0 %





Cream & vegetable-based cream

Hydrosol offers intelligent cream stabilising systems that feature simple use. Our vegetable-based functional systems offer an economical and highly effective alternative.

Cream products

Application	Stabilising system	Properties	Dosing
Cream & cream products	Laboron S-68-1010	Liquid cream stabiliser, simple handling when dispersing and good distribution	0.15 – 0.30 %
Cream, 30 % fat	Stabisol CT 6	Stabilisation of cream to prevent creaming at low dosage	0.02 %
Cooking cream, 20 % fat	Stabisol CFKS 9	Highly heat-stable	1.3 – 1.4 %

Vegetable-based whipping cream

Application	Stabilising system	Properties	Dosing
Vegetable-based whipping cream with 25 – 28 % fat	Stabimuls Vega SSI 14 GF	High stability at low dosage, contains no gelatine	1.4 %
Vegetable-based whipping cream with 25 – 28 % fat	Stabimuls ICR 9 MS	High reliability and stability in liquid and whipped phase	2.4 %
Vegetable-based whipping cream with 20 % fat	Stabimuls ICR 20 I	High stability even without gelatine despite reduced fat content	2.5 %

Vegetable-based cooking cream

Application	Stabilising system	Properties	Dosing
Cooking cream with 12 – 25 % fat	Stabisol VEGA 406 FT	Vegetable fat cream as substitute for cooking cream. Good whitening	2.0 – 2.1 %



Cheese products and analogues

Creamy, firm or grateable: With Hydrosol stabilising systems you can adjust consistency, melting and baking properties just the way you want them. This also goes for cheese-like products made with vegetable fats.

For pizza and salad

Application	Stabilising system	Properties	Dosing
Pizza topping	Stabisol PCMS 6	Gratable pizza topping, fillable in block form, good melting behaviour, economical product	1.6 %
Pizza topping all'Italia	Stabisol PCFL	Gratable pizza topping, fillable in block form, good melting behaviour, stringy when hot	5 %
Salad topping analogue, Greek style, 14 % protein	Stabisol FET	Salad topping with outstanding sensory properties, technology with artificial acidification and without homogenisation	12 %

Spreadable and triangular

Application	Stabilising system	Properties	Dosing
Spreadable processed cheese preparation	Stabisol PCSP	Flexible system, simple consistency adjustment through dosage	4.0 – 4.5 %
Processed cheese preparation in triangular form	Stabisol PCTR 1	System with outstanding filling viscosity for dosing in triangular packages, comes away from foil readily	4.3 %



Ice cream

Stabilising systems developed especially for ice cream make the product creamy and give it the desired melt.

Application	Stabilising system	Properties	Dosing
Milk ice cream 4 – 12 % fat	Stabimuls IC 200	Milk ice cream with especially creamy, full mouth feel	0.35 – 0.75 %
Milk ice cream 4 – 12 % fat	Stabimuls IC 1618	Creamy consistency even with low fat content	0.55 – 0.85 %
Various ice cream applications 2 – 14 % fat	Stabimuls IC 50360	Flexible system with many applications	0.4 – 0.6 %
Confectioner's ice cream	Stabimuls IC 826	Very good texture when produced at confectioners'	0.35 – 0.75 %
Soft-serve	Stabimuls IC SA	Gives a smooth surface and good filling properties when freezing in soft serve machines	1.1 %





Vegan products

For vegan pizza toppings, cooking cream, bread spread in slices and dairy alternatives Hydrosol offers formulations and stabilising systems that give balanced mouth feel, familiar consistency and good processing properties.

Application	Stabilising system	Properties	Dosing
Vegan pizza topping	Stabisol PCVB	Good melting behaviour and outstanding flavour profile	4.5 %
Slice-on-slice vegan cheese analogue	Stabisol PCVS 1 Stabisol PCVS 2	Sliceable product that melts on the tongue, based on soy protein or soy-free	4.55 %
Vegan cooking cream	Stabisol VEGA 420 P Stabisol VEGA 410 V	Vegan cooking cream substitute, highly heat-stable, based on soy protein or soy-free	3.0 – 3.2 %
Vegan drinks based on grain, nuts, coconut etc.	Stabisol GC 4	Stabilises suspensions and gives an outstanding mouth feel	0.08 – 0.12 %



Hydrosol can do more!

Deli foods and ready meals

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Texture

Systems of Synergy
Stabilising Systems
for Deli Foods and Ready Meals

Viscosity

Volume

- Ready meals, soups and sauces
- Cheese specialities and reconstituted products
- Integrated compounds for mayonnaise and emulsified dressings

THE STABILISER PEOPLE

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Meat and sausage

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Viscosity

Systems of Synergy
Stabilising systems for
meat and sausage

Texture

Volume

- Cooked ham and restructured meat products
- Cooked sausage, sausage from cooked meat, liver sausage
- Vegetarian and vegan alternatives

THE STABILISER PEOPLE

hydrosol

We offer a comparable range of products for ready meals and meat and sausage products – along with plenty of inspiration.



And what can we do for you?

The Hydrosol dairy development team

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