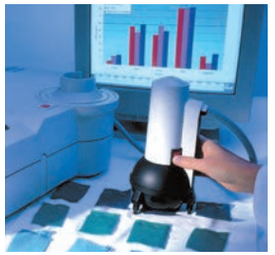

Start now in your successful future!
SYSTEMK4
Success made by Kreussler
kreussler
TEXTILE CARE






Systematically in a successful future.

Everybody would like to have a patented recipe for a successful future. With SYSTEMK4 – our new, worldwide patent pending, cleaning system – we offer you an innovative, and highly efficient cleaning procedure for commercial textile care that is unparalleled.

SYSTEMK4 is an environmentally friendly and absolutely safe cleaning process. The basic component of SYSTEMK4 is a halogen-free solvent. It is designed in such a way that, when properly used, it does not pose a risk to air, water, human beings and soil. And here lies the huge innovative potential of SYSTEMK4: The cleaning effect of the solvent SOLVONK4 is the same as perchlorethylene, and sometimes even better. At the same time, SOLVONK4 is not classified in Europe as either a hazardous material or a hazardous substance! Moreover, SOLVONK4 is biodegradable and has been tested dermatologically with the result “Very Good”.

The unique advantages are absolutely clear:

- **You offer your customers excellent cleaning quality.**
- **You offer your customers dermatologically tested skin friendliness with “Very Good”results.**
- **Biodegradable solvent: eco-friendly, preserve nature in a sustainable manner.**
- **Increase the safety of your business thanks to the favorable hazardous substance classification of** SYSTEMK4**.**
- **Satisfy all legal, environmental and work place regulations.**
- **Economical and increased productivity with lower energy expenditure.**

Kreussler is setting new standards with SYSTEMK4. The goal is to change dry-cleaning worldwide in a sustainable and positive manner! In times of increasing government regulation, economic and ecological demands, we have the solution for you and your customers with SOLVONK4. Have a look for yourself on the following pages.

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Real life experiences.

Since autumn 2009 SYSTEM**K**4 has been undergoing various practical tests and field tests in numerous European countries and the USA. The feedback from the test companies was – totally independent of each other – without exception positive. Particularly highlighted, besides the ecological advantages, was the unique cleaning power and the economic savings when using SYSTEM**K**4.

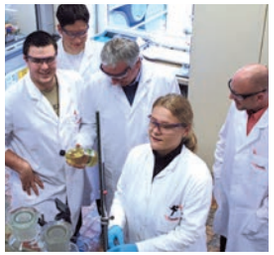
Cleaners, with long-term experience using perchloroethylene, were particularly surprised by the cleaning performance on water soluble soil and the very few returns of the cleaned goods for stains. The favorable ecological classification of SOLVON**K**4 was also noted as positive. Businesses, that are already using HCS – technology or other halogen-free alternative solvents, praised the cleaning performance, the feel of the textiles and the ecological advantages.

Lower energy expenditure for distillation and drying, as well as cost savings in regards to the disposal of distillation residues are further advantages of SYSTEM**K**4. SYSTEM**K**4 offers even more advantages in terms of occupational and environmental protection. In addition, your customer is easily convinced by the advantages.

With SYSTEM**K**4 we have succeeded in optimally coordinating all auxiliaries and the process with each other to meet highest demands in dry-cleaning. An innovation that was worth our registering it for a patent, worldwide!









One source for everything: SYSTEMK4.

In dry-cleaning it is important that solvents, products, machines and processes are all compatible. SYSTEMK4 takes this into account.

SYSTEMK4's secret for success is actually quite simple:

1 System – 4 components of success.

- SOLVONK4 – **The halogen-free solvent.**
- PRENETTK4 – **The brushing agent.**
- CLIPK4 – **The detergent concentrate.**
- VINOYK4 – **The water and stain repellant agent.**



This successful quartet is perfectly complimented by cleaning machines from the Kreussler partners FMB (UNION, FIRBIMATIC, REALSTAR among others) that are adjusted for SOLVONK4. As a pre-condition for the machines, SYSTEMK4 requires a technology similar to the proven technology used by HCS - and Cyclosiloxane machines. However, distillation conditions, drying process of textiles and some other machine parameters have to be adapted to the specific application conditions of SOLVONK4.

Kreussler will not leave you to yourself!
You may be wondering how do I convert to SYSTEMK4? Contact us and our specially trained sales representatives will assist you, step-by-step, in converting to SYSTEMK4. If necessary we will help you make contact with the machine manufacturer. A training session on working with SYSTEMK4 products gives you the chance, without any problems or risks, to convert your business to the new solvent and be ready for the future, meeting EPA guidelines and moving towards sustainable practices.







SOLVON**K**4 – the halogen-free solvent.

SOLVON**K**4 has very different properties from conventional solvents in dry-cleaning. It is a halogen-free, organic solvent with a pureness of > 99 % and excellent cleaning performance.

The innovative solvent is not only able to dissolve and absorb lipophilic (fats, greases and oil) but also hydrophilic soil (water soluble soil). Besides the excellent cleaning power of SOLVON**K**4 the cleaned textiles also have a pleasant and smooth feel. Noticeable is also minimized fiber abrasion during the cleaning process and also less creasing. In Europe SOLVON**K**4, similar to HCS respectively cyclosiloxane D5, underlies the VOC directive, in Germany implemented by the 31st Federal Emission Protection Ordinance (BImSchV). According to the current status of legislation in Europe SOLVONK4 is neither a hazardous material nor a hazardous substance! Even after the, as of December 2010, for materials valid CLP classification SOLVON**K**4 still does not require any hazardous labeling on the European market. SOLVON**K**4 is biodegradable and dermatologically tested with “Very Good“.

The named properties in combination with a very favorable classification within the framework of the Ordinance on Hazardous Substances are unique and have not been achieved in the past. The results of pre-market-tests demonstrate that SOLVON**K**4 has the potential of becoming a paradigm for dry-cleaning.

All advantages at a glance:

- **Halogen free.**
- **Pureness > 99 %.**
- **Excellent cleaning performance – effective against lipophilic AND hydrophilic soil.**
- **Easy finish and pleasant feel.**
- **Neither a hazardous material nor a hazardous substance in Europe (CLP).**







Quality that is obvious.

SYSTEMK4 features the same – for some textiles even better – cleaning properties as perchloroethylene. Lipophilic and in particular water soluble soil is excellently removed. Even saline (salt based) soil is removed better with SYSTEMK4.

Overview of the quality advantages:

- **Excellent cleaning power for water soluble and lipophilic stains.**
- **Hardly any pre-spotting necessary.**
- **Gentle cleaning of textiles, leather and furs.**
- **Reduced finish-effort thanks to less creasing.**
- **Very pleasant and smooth feel.**
- **High wearing comfort.**
- **Bright colors.**
- **Increased protection against textiles turning grey.**
- **The cleaned textiles have a fresh scent.**









Definitely the right solution.

When developing SYSTEM**K**4 we focused on the needs of all parties. Our goal was to develop an effective system from which all would benefit – from the cleaner to the shop assistant to the end customer. This is the only way for us to ensure long-term success and together look forward to a secure future!

Along with the already mentioned advantages, SYSTEM**K**4 **offers numerous further advantages for…**

…all parties:

SYSTEM**K**4 is tested and dermatologically absolutely harmless. SOLVON**K**4 is more powerful than all the previous cleaning technologies. Due to it being free of hazardous substances (according to the CLP-Regulation) and its favorable general categorization (by GHS), it is quickly and fully accepted by colleagues, clients, landlords and authorities.

…dry-cleaning entrepreneurs:

In some places operating dry-cleaners with PER solvents is already prohibited (e.g. in supermarkets in Germany) or will be prohibited in the near future (e.g. California in 2020). As opposed to perchloroethylene SYSTEM**K**4 offers a long-term solution for the dry-cleaning business – and that with powerful cleaning effect and no compromises.

Since SYSTEM**K**4 is not a hazardous material, delivery is fast, uncomplicated and logistically unlimited. Capital commitment and extensive stock keeping are a thing of the past! With SYSTEM**K**4 costs and effort for intense training sessions are unnecessary. This reduces risks and improves your budget!

…employees in dry-cleaning businesses:

SYSTEM**K**4 ensures safe and easy working. The effort for spotting is greatly reduced.

….end customer:

SYSTEM**K**4 offers customer, who are reluctant to have expensive clothing dry-cleaned, a real alternative. Because unpleasant odors are a thing of the past. Textiles cleaned with SYSTEM**K**4 are absolutely odorless. An important aspect for persons who are very sensitive to odors.

One system – multiple advantages!









Effective environmental protection.

We take over responsibility – for the protection of human health and our environment. That is why all components of SYSTEMK4 are produced in such a way that they fulfill stringent, statutory environmental regulations and even go beyond these regulations. And that without giving up best cleaning results. With SOLVONK4 we ensure safe transportation, working, disposal and living.



Well thought out – SOLVONK4 **for a sustainable future:**

- **Non-toxic.**
- **Non-hazardous material, not a hazardous substance according to CLP.**
- **Favorable classification according to GHS.**
- **Biodegradable.**

Classification of solvents in comparison

	PERC	SOLVONK4	HCS	Cyclosiloxane D5
Flashpoint °C (PMCC)	–	62°C	58-64°C	77°C
EC-classification	Xn;N R40-51/53 canc. Cat.3	–	Xn R65-66	–
CLP (Implementation GHS in Europe)	WARNING  3.6/2 Karz. 2; H351; 4.1/2; H411		DANGER  3.10/1 Asp. 1; H304; EUH066	–
GHS	WARNING  3.6/2 Karz. 2; H351; 4.1/2; H411	WARNING 2.6/4; H227	DANGER  3.10/1 Asp. 1; H304; 2.6/4; H227	WARNING 2.6/4; H227






Advantages you can count on.

Our motto – Reduce costs systematically:

- **Energy cost savings due to less effort in distillation and drying.**
- **High productivity due to short cycle times.**
- **Cost reduction due to less effort in pre-spotting.**
- **Prevention of multiprocessing due to less returns.**
- **Time-savings due to less finish-effort.**
- **Lower costs for the disposal of distillation residues thanks to the halogen-free solvent** SOLVONK4.
- **Positive effect on operating costs due to less legal restrictions.**

Satisfied customers will return and recommend you!









A system for optimal results. Take our word for it!

SYSTEMK4 with the solvent SOLVONK4 provides all requirements for effective and hygienic cleaning of delicate textiles.
The cleaning system is perfectly supplemented by following three products:

PRENETTK4 – The brushing agent.

For strongly soiled pieces SYSTEMK4 offers a brushing agent: PRENETTK4. It reliably removes soil such as collar or cuff dirt. PRENETTK4 rinses out residue free and supports dirt removal during the cleaning process. PRENETTK4 is VOC-free and unscented. Even in small amounts PRENETTK4 is highly effective and at the same time protects delicate textiles. To remove specific stains we recommend the tried and tested spotting agents from Kreussler (Deprit Professional Series and Prenett A, B, C).

CLIPK4 – The detergent concentrate.

CLIPK4, the highly concentrated drycleaning detergent is distinguished by its excellent cleaning performance and hygienic freshness. It protects against greying, has excellent anti-static properties and lastingly improves the wearing comfort of dry-cleaned clothes. Whites stay white after dry-cleaning, the colors are fresh and the feel is superb. Not only dirt but also foreign odors, for example after a fire, are completely removed. When cleaning leather the addition of lubricants or emollients is no longer necessary. The leather is clean, wonderfully soft and simply has a good feel to it. With the highly concentrated CLIPK4 you can use small amounts and still achieve very good cleaning results.

PRENETTK4
CLIPK4
VINOYK4

VINOYK4 – The water and stain repellant agent.

For water and stain repellency with VINOYK4 the fluorocarbon resin is already pre-dissolved in SOLVONK4. The system conformity preserves solvent pureness and prevents unnecessary residue. In addition this also ensures that the chemical-physical properties (flashpoint, boiling point, polarity) of the solvent remain unchanged. This leads to increased process and work safety. The goods receive a full feel and an excellent spot protection and water repellency.









Headed for success, hand in hand with machine industry.

SYSTEM**K**4 may generally be used in cleaning machines suitable for hydrocarbon solvents and cyclosiloxane. But Kreussler did not leave it at that and developed a new generation of machines as well as cleaning processes matching SYSTEM**K**4 in cooperation with FMB, the competent and innovative machine partner from Bologna/Italy.

On principle, SYSTEM**K**4 triggered an innovation push in the cleaning machine industry. New machines are meanwhile not only offered by FMB group but also by all other reputable machine manufacturers. Such machines may still also be used a multi-solvent machines and are approved for solvent class A III for using hydrocarbon solvents, silicon D5 and SOLVON**K**4.
In comparison with standard machines, these machines distinguish themselves by more efficient drying, consequently shorter drying times and less emissions.

An investment which pays off rapidly:

- **Neutral and fresh smell due to the low emission**
- **Very fast batch times (55' – 65')**
- **Solvent loss under 1 %, down to 0.5 %**
- **Freedom to change back to other solvents from Class III A (by only changing the calibration values)**
- **Free of any license fees**



All information is to the best of our knowledge, the current status of research and refers to the appropriate use and handling of SYSTEM**K**4 products as stated in the Technical Instructions and Safety Datasheets. Liabilities cannot be assumed.

Detailed product information can be found at www.SYSTEMK4.com

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