



Dear readers,

Dr. Weigert has been a leading player in the development of professional system solutions for laboratory and medical technology for several decades. We are continuing on this path with the **neomatik® mediDOS active** dosing solution. This space-saving system is used for automatic dosing of powdered cleaning and disinfectant concentrates and for preparing ready-to-use suspensions. Starting on p. 1, Ms Jasmin Volkmann, CSSD Operations Manager at the University Hospital Schleswig-Holstein (UKSH) in Lübeck, discusses the use of **neomatik® mediDOS active** at the UKSH in Lübeck. Next, starting on p. 2, we set out the application areas, function and operation of the innovative, microprocessor-controlled dosing device.

In part 2 of our series "Working Safely with Process Chemicals", Dr Uwe Borchert, from the Hazard Management department, outlines the "labyrinth" of the German Chemicals Act, starting on p. 3.

On p. 4, in the third part of our chemistry series "Basics of Our Raw Materials", we then describe the difference between alkalis and acids and their great importance to the development and production of cleaning agents.

Enjoy the newsletter!

Best regards

Guido Merk
guido.merk@drweigert.de
Phone: +49 40 789 60-261



DR. WEIGERT

Systematic Hygiene

In Use: neomatik® mediDOS active Dosing Device

A testimonial from the University Hospital Schleswig-Holstein in Lübeck

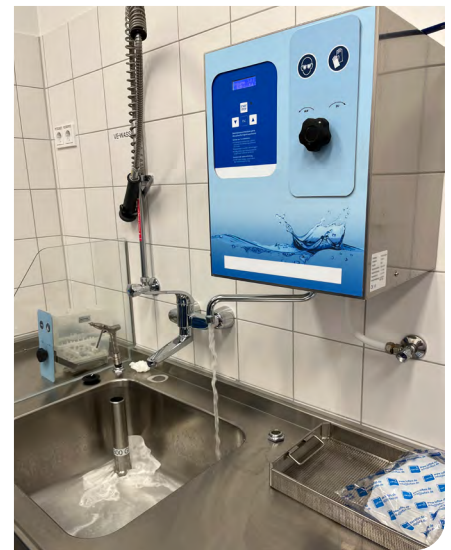
The CSSD in Lübeck has around 50 employees and currently supplies all departments of the UKSH in Lübeck with approx. 80,000 processed sterile items per year. It sets extremely high and certified requirements for the hygienic processing of medical devices. Jasmin Volkmann is CSSD Operations Manager at the UKSH in Lübeck. She has been working with the Dr. Weigert microprocessor-controlled dosing device **neomatik® mediDOS active** for 1.5 years. The device is particularly suitable for dosing powdered disinfectants in large CSSDs and Endoscopy departments. Ms Volkmann shares her valuable experience with us in the following interview.



Jasmin Volkmann,
Head of CSSD, Lübeck

Ms Volkmann, you have been working successfully with the **neomatik® mediDOS active** dosing device for 1.5 years. What is the device used for?

The **neomatik® mediDOS active** is a powder dosing device that doses granulate in water at a defined ratio. The result is the desired application suspension. The desired quantity of application suspension is set beforehand via the control panel and flows into a basin automatically after the start of the dosing process.



Disinfectant solution flows into the basin automatically

What product do you use? At what concentration do you dose it, and what do you disinfect with the application solution?

We use **neodisher® Septo Active** at a concentration of 2%. We use the application solution for final disinfection, particularly for ophthalmological devices and cryoprobes. The 2% solution is also our contingency concept in case our endoscope washer-disinfectors fail and we need to process the flexible endoscopes manually.

What advantages do you gain from the dosing device?

The main advantage is its straightforward and reproducible use. There is no need to calculate the amount of granulate required each time. You push the button, and the machine produces the required quantity of application suspension automatically.

That way, we eliminate the error source of incorrect dosing. This is a major safety factor for us. With around 70 employees, and new ones constantly joining us, this matters a great deal. In addition, we save time, as dosing of the granulate does not have to be performed manually.

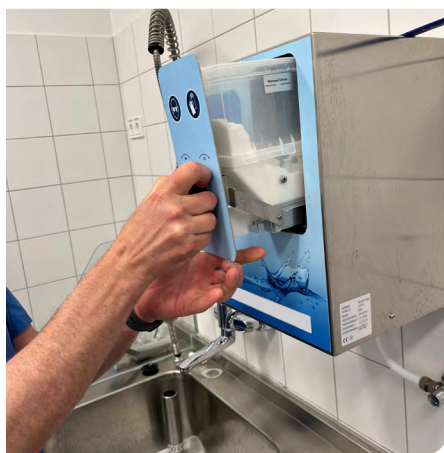
How many powder storage containers do you work with?

We use two powder storage containers. When one container is empty, we replace it with the second, filled container. The replaced container is completely cleaned and dismantled. We then wash the container and leave it to dry fully. After this, we fill the dried storage container with new granulate – this prevents lumps.

How often do you replace the powder storage containers?

We always produce ten litres of application suspension, i.e. we need 200 g of granulate. We mix the solution once a day and replace it completely if we detect contamination. We also work at weekends and produce around 8 to 10 applications per week. As a result, we consume 1,600 to 2,000 g of granulate, meaning that we replace the container about once a week.

How do you find the device in terms of operation? Is the powder storage container easy to fill?



Removal of the powder storage container

Operation is very easy and self-explanatory. You just push the button and the dosing device lets in the selected quantity of water and the required quantity of granulate automatically. Refilling the powder storage container is also straightforward. You simply need to make sure you slide the powder storage container into the guide rails properly when inserting it.

Does the granulate dissolve easily?

The machine doses a water/granulate mixture (suspension) into the disinfection basin. We then stir the solution occasionally. The granulate dissolves easily within 15 minutes, and the solution is then ready to use straight away. Lukewarm water is ideal for fast dissolving as well as odour prevention.



Filling of the powder storage container

Ms Volkmann, thank you for talking to us!

*The interview was conducted by
Jörn Brinckmann and Guido Merk.*

Find out more about **neomatik® mediDOS** active here:
https://www.drweigert.com/fileadmin/Downloads/Prospekte/DrW-1383_neomatik_medidos_active_1122-DE.pdf



Working Safely with Process Chemicals Implementation in the Workplace – Part 2

In Germany, the halcyon days of virtually unregulated handling of chemicals ended on the 29th of November 1894. Since that was the date when the Federal Council of the German Reich passed the Act “On Trade of Toxic Substances”. That is when the Federal Council of the states of the German Reich passed the Act “On Trade in Toxic Substances”. Thereafter, the situation became increasingly difficult for chemists and the nascent chemical industry, as lots more acts and ordinances governing the handling of chemicals were to follow.

These days, chemicals legislation extends throughout the EU. The European sub-

stance registers, which record production, import, export, the classification of hazards arising from chemicals, and the packaging and labelling of chemicals with various pictograms, are now subject to the European REACH and CLP Regulations.

Looking at the principal Act on Chemicals in Germany, the Act on Protection from hazardous chemicals (ChemG), one will mostly come across mere references to the later EU regulations. EU regulations take precedence over German law, meaning that the power of the ChemG is mainly limited to its implementation in Germany. Specifically, the ChemG chiefly sets out the responsibilities of the German federal

authorities and otherwise mostly deals with fines and penalties (Sections 26 and 27).

The ChemG delegates the German Ordinance on restricted Chemicals (ChemVerbotsV), and the German Ordinance on Hazardous Substances (GefStoffV). Both are collections of downright strictly legal terms. In terms of scope, the ChemVerbotsV defines who is allowed to work with hazardous substances, while the GefStoffV focuses on protection of the employees who handle hazardous substances. Consequently, our search for the legislation that governs implementation of the hazard and precautionary statements (H and P statements) set

out on labels and in safety data sheets leads us to the GefStoffV.

The later laws and regulations always refer to the abstract term “state of the art” – bypassing to provide any technical details. It is therefore engineers rather than lawyers who provide answers applicable in practice to the question of the technical configuration of a safe workplace and how hazardous substances are stored safely. And these engineers can be found at bodies such as the German Federal Institute for Occupational Safety and Health (BAuA) and the German Social Accident Insurance Institution (DGUV). They compile specific figures and detailed instructions, for instance in the Technical Rules for Hazardous Substances (TRGS).

All readers who find their head spinning after diligently studying labels, safety data sheets and this article can now take a deep breath because the lofty legalese of the GefStoffV contains a real gem – the safe operating procedures. Here, on two pages, the employer sets out all relevant hazard sources as well as the key protection measures and rules of conduct for each workplace where hazardous substances are handled.

To help with preparation of these safe operating procedures, Dr. Weigert makes templates for all its products available to download on its website.

Link to the Dr. Weigert templates:
<https://www.drweigert.com/de/downloads/betriebsanweisungen>



Author:
*Dr Uwe Borchert,
Chemist, Dr. Weigert
Hazardous Substance
Management*

neomatik® mediDOS active – Precise and Innovative Dosing Solution from Dr. Weigert

Efficient and Safe Dosing of Granular Cleaning Agents and Disinfectants

neodisher® mediDOS active embodies innovative dosing technology combined with concentrated process chemicals and the complete Dr. Weigert service. The space-saving system provides an optimum solution for the special needs and day-to-day challenges of manual endoscope processing in the CSSD, the Endoscopy department or private endoscopy practices.

This dosing device makes your work easier in the following application areas:

- Production of disinfecting pre-cleaning solutions for flexible endoscopes
- Production of final disinfectant solutions for flexible endoscopes
- Production of final disinfectant solutions for other thermolabile medical devices

The ability to choose between 1% and 2% application solutions means that you can also combine the above application areas.

Functioning

The microprocessor-controlled dosing device is used for automatic dosing of powdered cleaning and disinfectant concentrates for preparing ready-to-use suspensions. Operation is menu-based via the trilingual

keypad. Dosing can be carried out with a concentration of 1% or 2%. On each extraction, you can individually choose between the pre-set concentrations and volumes. After inflow of the suspension, the powder must be fully dissolved in the processing bath. The neomatik® mediDOS active complies with the guidelines of the BAM¹ and the RKI².

We recommend the following products for use of the neomatik® mediDOS active:

**neodisher endo® DIS active –
For Manual Processing of Flexible
Endoscopes**

Further information is available here:
https://www.drweigert.com/target/MB/neodisher-endo-DIS-active_MB_en_PN4077_2020-04-30.pdf



**neodisher® Septo Active –
For Manual Processing of Thermolabile and
Thermostable Instruments**

Further information is available here:
https://www.drweigert.com/target/MB/neodisher-Septo-Active_MB_en_PN4098_2020-04-15.pdf



neomatik® mediDOS active – Now Available in a New Design:



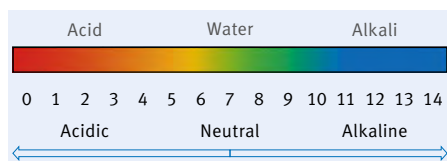
neomatik® mediDOS active is the Right Choice in the Following Cases

- You are manually disinfecting large amounts of thermolabile medical devices and want to make your unit more innovative and automated;
- You want to be sure that there is always precise dosing of the cleaning agent and disinfectant, as correct dosing makes your disinfection safer;
- You want to save time, which is ensured with automatic dosing;
- You want to achieve a consistently high standard even with changing personnel, and this is enabled by the intuitive, menu-based operation, making the induction of new employees much easier;
- You aim to reduce costs, for instance by buying the disinfection granulate in 8 kg containers instead of 100 g sachets.

Chemistry Series: Basics of Our Raw Materials

Part 3: Alkalis and Acids

The pH value indicates whether a substance is an acid or an alkali. It determines acidic or alkaline behaviour of a chemical substance and is defined for a range of 0 to 14. A value of 9 or more denotes alkalinity, and a pH of less than 4 denotes acidity. The range between 5 and 8 is called neutral; pure water is one example of a neutral solution.



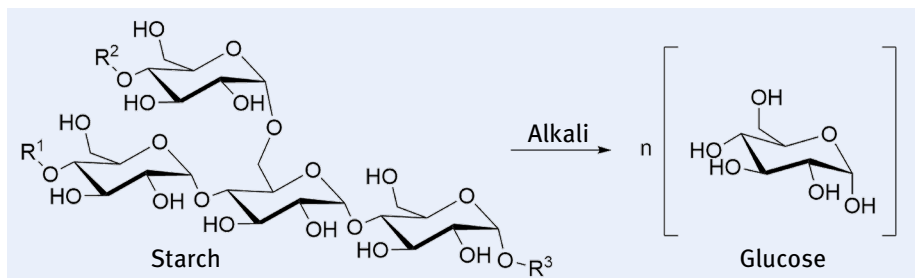
pH scale

pH Value of 9–14: Alkalis

Alkalis have an alkaline pH value, i.e. approx. 9 and above. They are often used to attain a high pH value in a formulation. For Dr. Weigert, they are by far the biggest chemical substance category for adjustment of an alkaline pH value. It would be impossible to develop and produce professional cleaning agents without alkalis, as nothing else has the alkalinity required for a successful cleaning outcome. The chemical effect of alkalis is typified by their hydrolysis property. This is best illustrated by the example of fat saponification. In alkali, fats, known as triglycerides, give rise to glycerol and potassium soaps of long-chain fatty acids here. This reaction turns previously non-water-soluble fats into water-soluble substances that can be rinsed with the cleaning solution.

Proteins are one of the most widespread contaminants in the food industry, kitchen hygiene and medical device processing. They consist of individual amino acids that are connected by a peptide bond. Under the influence of alkalis, these bonds are hydrolysed, and the individual, soluble amino acids and peptide fragments can be rinsed out.

Starch or other food ingredients consisting of carbohydrates can also be hydrolysed at high pH values by means of alkalis. The resultant fragments, e.g. glucose, are water-soluble and can be made mobile in this way.



Starch hydrolysis: Alkali splits polysaccharides into individual, water-soluble fragments

pH Value of 0–4: Acids

A pH value of less than 4 denotes acidity, which can be adjusted with acids. Whereas the pH value is the sole performance criterion for alkalis, it is less significant when using acids as cleaning agents in washing technology. Nitric, phosphoric, sulphuric, citric and sulfamic acid are mainly used here.

Carbonates, which can be caused by hard water, or oxalates, an unwanted by-product of beer production, are typical contaminants that can be removed by acids. In addition, acids are used if washed items are to be neutralised after alkaline cleaning or if the pH value of a formulation is to be adjusted or corrected. Citric and phosphoric acid are useful for this. In particular, citric acid is especially mild with regard to material protection and is suitable for acidic formulations that are advertised for sensitive washing items. By contrast, along with its property as an acid, nitric acid also has high oxidation potential. This is used to get rid of oxidisable organic soiling. Sulfamic acid is used if a solid yet mild acid is required, e.g. when descaling dishwashers and water heaters.

In addition to the use of acids that can perform cleaning tasks directly and indirectly, there are acids that are used chiefly on account of their biocidal effect. Biocidal acids include lactic, formic and peracetic acid. They can be used either for preservation or attainment of biocidal properties for application as disinfecting cleaners or disinfectants.

Author: Dr Matthias Springer
Head of Research & Development

Read the full article here (German only):
<https://www.drweigert.com/de/aktuell/wissensdatenbank/laugen-und-saeure-grundlagen-unserer-rohstoffe>



Dates

July–November 2023

(As at: 1 July 2023)

- **GastroTage, Mannheim**
30 June and 1 July 2023
- **Allerlei, Leipzig**
7–8 July 2023
- **Viszeralmedizin 2023**
11–16 September, Hamburg
- **SVEP Congress**
14–15 September, Interlaken
- **UEG Week**
14–17 October, Copenhagen
- **DBfK Endoscopy Forum**
28 October, Stuttgart
- **DEGEA Dr. Weigert Webinar – Endoscopy**
15 November

Legal Notice

Publisher

Chemische Fabrik Dr. Weigert
GmbH & Co. KG
Mühlenhagen 85 · 20539 Hamburg,
Germany
Phone: +49 40 789 60-0
www.drweigert.de

Editorial team

Marcel Jung
marcel.jung@drweigert.de
Guido Merk
guido.merk@drweigert.de
Daniela Schrickler
daniela.schricker@drweigert.de

Production

MWI GmbH · 50667 Cologne, Germany

Printing

Sigma Druck · 48550 Steinfurt, Germany