

deconex® DEROUGE System

Derouging system of neutral pH value

Rapidly and effectively removes rouge deposits from stainless steel water systems and process equipment



Application

deconex® DEROUGE System rapidly and effectively removes rouge from the surfaces made from stainless steel.

The new process works in neutral pH conditions and therefore meets the ever more stringent requirements for plant maintenance and environmental protection.

deconex® DEROUGE System is suitable for controlled derouging operations, particularly in the pharmaceutical industry, biotechnical production, the cosmetic industry but also in purified water supply.

deconex® DEROUGE System is especially suited for derouging of:

- production systems, storage tanks and distribution systems for water (PW or WFI)
- pure steam systems
- process vessels e.g. in vaccine production
- autoclaves, lyophilizers etc.

Properties

As the natural passive layer on stainless steel surfaces ages, a rust-red deposit, known as rouge, can form. From a GMP point of view, rouge is not acceptable in direct-contact pharmaceutical systems. The main acceptance criterion for visual inspection “visually clean” is not fulfilled and the specified surface finishing fails to meet defined standards. As a consequence, products are no longer manufactured under controlled conditions.

Furthermore, there is the risk that rouge particles can be released from the layer and potentially migrate as a contaminant into the final product.

Without regular derouging and repassivation, rouge will accumulate and become more and more difficult to remove, while the surface cleanliness and roughness will decrease, increasing risks to product quality.

The advantages of using deconex® DEROUGE System are:

Advantages	Benefits to you
Short process times	Shorter downtimes, longer duty cycles for production equipment.
pH-neutral process	Solutions and rinsing water do not require neutralising. Waste disposal is simple and cost-effective.
Increased safety at work	High concentrations of aggressive acids are not required.
Simple in-process control	Monitoring of derouging solution effectiveness does not require expensive analytical equipment.
Rapid results	Short derouging cycle times. Improved efficiency.
Proven process	Safe to use thanks to our process descriptions. These allows a perfect documentation of derouging operations.
Highly effective	The low concentrations lead to a cost-effective application.
Excellent material compatibility	Longer life cycles for process equipment.
Does not contain halogenides	No chemical attack on surfaces.
Validated analytical methods	Allow a residue-free process. Well established analytical procedures enable a rapid transfer of the derouging process.

deconex® DEROUGE System

Your solution for removing rouge

deconex® DEROUGE System is a patented derouging process which shows excellent and rapid results at neutral pH value.

The system consists of deconex® DEROUGE liquid and deconex® DEROUGE P powder. These two components are mixed shortly before use.

The addition of deconex® DEROUGE Z at the end of the derouging process improves rinsing characteristics.

A surface passivation is recommended after the derouging to build a protective layer on derouged surfaces. We recommend a passivation with deconex® CIP protect or deconex® CIP boost (available only in continental Europe).

Contact us for more information about surface passivation with deconex® CIP protect or deconex® CIP boost.

Ingredients

deconex® DEROUGE: complexing agent, corrosion inhibitor

deconex® DEROUGE P: reducing agent

deconex® DEROUGE Z: alkalis, complexing agents

Dosage

deconex® DEROUGE System contains all components for the easy preparation of ready-to-use solutions.

For heavy rouge deposits, for example in steam systems, the use concentration can be increased up to a maximum of five kits.

We recommend the following application concentrations:

Application (standard process)	
deconex® DEROUGE	2.0 % (v/v)
deconex® DEROUGE P	0.6 % (w/v)
deconex® DEROUGE Z	0.3 % to 0.5 % (v/v)

Instructions for use

Check the activity of the derouging solution at regular intervals. The quick and easy way to do this is by adding an ACDS to 200 mL of the solution.

Neutralization is not necessary. Process and rinsing water can be disposed of without the need for further treatment. Dispose of process and rinsing water in accordance with your local waste water regulations.

Please, contact us for detailed operating procedures about the following:

- Flooding processes (preparation tanks, piping, etc.)
- Spraying in closed systems (CIP spray process)
- Monitoring of the effectiveness of the derouging process
- Testing for possible traces of residues from the derouging process
- Testing the activity of derouging solutions

Residue analysis / cleaning validation

To confirm residue-free cleaning, we offer suitable analytical methods and will be pleased to advise on how to perform these in practice. Comprehensive PDE (Permitted Daily Exposure) reports are available as a basis for a toxicological risk assessment.

deconex® products are outstanding and completely documented. The extensive documentation package supports and facilitates the validation process.

Material compatibility

Suitable for:

Stainless steel, polyethylene (HDPE), polypropylene (PP), polyamide (PA), polyvinyl chloride (PVC), Teflon® (PTFE), polyether ether ketone (PEEK), silicone elastomer (MVQ), EPDM elastomer, fluoroelastomer (FPM), nitrile elastomer (NBR)

For materials not mentioned above we recommend specific compatibility testing, or please consult Borer Chemie AG.

deconex® DEROUGE System

Chemical / physical data

deconex® DEROUGE	pH value	1 g / 100 g in DI-water	approx. 4.5
	Density	concentrate	1.07 g/mL
deconex® DEROUGE P	Appearance	concentrate	clear, colourless to yellow
	pH value	1 g / 100 g in DI-water	approx. 7.6
deconex® DEROUGE Z	Appearance	concentrate	powder, white
	pH value	1 g / 100 g in DI-water	approx. 8.8
	Density	concentrate	1.25 g/mL
	Appearance	concentrate	clear, colourless to yellow

The ready-to-use solution of deconex® DEROUGE System is pH-neutral.

Availability

deconex® DEROUGE System is available as a practical set.

SET 250 L - Art. No. 21358

For the preparation of 250 litres of a ready-to-use solution

deconex® DEROUGE	5 L
deconex® DEROUGE P	1.5 kg
deconex® DEROUGE Z	1 kg

SET 1000 L - Art. No. 21359

For the preparation of 1000 litres of a ready-to-use solution

deconex® DEROUGE	20 L
deconex® DEROUGE P	4 x 1.5 kg
deconex® DEROUGE Z	6 kg

For the control of the process, we recommend ACDS Activity Check.

ACDS Activity Check - Art. No. 528200.00-FL50

5 % aqueous solution of methylene blue

Additional information

Containers, screw caps and labels are made from recyclable polyethylene.

For information concerning safety at work, storage and disposal, please consult the corresponding safety data sheet.

Benefit from our expertise! Please contact us for practical information regarding your specific application.

deconex® products for the highest demands

deconex® products have been specially developed for validated cleaning.

Our services and products allow a customised, optimally adapted and effective process.

Request more information by e-mail to: derouging@borer.ch

Manufacturer:

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