

deconex® DEROUGE System 2.0

Derouging system of neutral pH value

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

Works in ambient conditions without inert gas protection.



Application

deconex® DEROUGE System 2.0 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 2.0 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 2.0 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.
- washing systems

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.

Your solution for removing rouge

deconex® DEROUGE System 2.0 is a patented derouging process which shows excellent and rapid results at neutral pH value and is effective in a temperature range of RT – 85 °C .

The system consists of deconex® DEROUGE 2.0 liquid and deconex® DEROUGE P 2.0 powder. deconex® DEROUGE P 2.0 should be added at the operating temperature.

The advantages of using deconex® DEROUGE System 2.0 are:

Advantages	Benefits to you
Works under ambient atmosphere	The whole process can be easily carried out, without the need to supply the inert gas.
pH-neutral process	Solutions and rinsing water do not require neutralising. Waste disposal is simple and cost effective.
Active from ambient temperature	Effective already at moderate temperatures. Increased safety at work, lower impact of heat energy, less time for heating up the process solution.
Increased safety at work	High concentrations of aggressive acids are not required.
Highly effective	Eliminates all types of rouge.
Short processing time	Improved efficiency. Shorter downtimes, longer duty cycles for production equipment.
Excellent material compatibility	Longer life cycles for process equipment.
Does not contain halogenides	No chemical attack on surfaces.
Phosphate-free process	No phosphate discharge into soil and groundwater. Prevents water quality problems and eutrophication.
Simple in-process control	Monitoring of derouging solution effectiveness does not require expensive analytical equipment.
Validated analytical methods	Allow a residue-free process. Well-established analytical procedures enable a rapid transfer of the derouging process.

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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.

Dosage

deconex® DEROUGE System 2.0 contains all components for the easy preparation of ready-to-use solutions.

We recommend the following application concentrations:

Application (standard process)	
deconex® DEROUGE 2.0	2.0 % (v/v)
deconex® DEROUGE P 2.0	8.0 % (w/v)

Depending on the type and amount of rouge deposit, derouging process takes from 3 hours at room temperature (RT) and about 0.5 - 1 hour at 80 °C. In general, an increase of the temperature leads to reduction of process time.

Instructions for use

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

Neutralization is not necessary.

Dispose of process and rinsing water in accordance with your local waste water regulations.

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.

Chemical / physical data

deconex® DEROUGE 2.0	pH value	1 g / 100 g in DI-water	approx. 4.5
	Density	concentrate	1.07 g/mL
	Appearance	concentrate	clear, colourless to yellow
deconex® DEROUGE P 2.0	pH value	1 g / 100 g in DI-water	approx. 6.5
	Appearance	concentrate	powder, white

The ready-to-use solution of deconex® DEROUGE System 2.0 is pH-neutral.

Ingredients

deconex® DEROUGE 2.0: complexing agent, corrosion inhibitor
deconex® DEROUGE P 2.0: reducing agent

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.

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Availability

deconex® DEROUGE System 2.0 is available as a practical set.

SET 50 L - Art. No. 21392

For the preparation of 50 litres of a ready-to-use solution

deconex® DEROUGE 2.0	1 L
deconex® DEROUGE P 2.0	4 x 1 kg

SET 250 L - Art. No. 21393

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

deconex® DEROUGE 2.0	5 L
deconex® DEROUGE P 2.0	2 x 10 kg

SET 1000 L - Art. No. 21396

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

deconex® DEROUGE 2.0	20 L
deconex® DEROUGE P 2.0	8 x 10 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 waste 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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