

deconex® MT 41



Highly acidic cleaner for passivation

For the compliant passivation of instruments and implants in the medical technology industry in accordance with ASTM A967



Use

deconex® MT 41 is used in the passivation process for instruments and implants. The use of this product causes an inert layer to form on the stainless steel surface within a short period of time, thus effectively protecting it against corrosion. This process does not impair the ability to read the lettering on the surface.

deconex® MT 41 is suitable for both primary (long-term) and secondary (short-term) passivation.

Stainless steel surfaces must be completely free of grease before deconex® MT 41 is applied.

The product deconex® MT 19 is recommended for optimal surface preparation.

Application

The concentration of nitric acid in deconex® MT 41 is diluted up to 1000 times more than with the use of classic methods. This makes it possible to spray it in addition to using the conventional immersion method.

The following conditions for application have been proven reliable in practice and serve as the basis for finalising customer-specific passivation processes:

Spray application	Dosage	Temperature	Contact time
Primary passivation (long-term passivation)	2%	RT - 85°C	30 - 60 min
Secondary passivation (short-term passivation)	2%	RT - 85°C	5 - 30 min

Immersion application	Dosage	Temperature	Contact time
Primary passivation (long-term passivation)	8 - 12 %	RT - 85°C	30 - 60 min
Secondary passivation (short-term passivation)	8 - 12 %	RT - 85°C	1 - 30 min

Properties

deconex® MT 41 is free of:

- Corrosion protection
- Chlorine
- Silicate
- Perfume
- Dyes

The product is also:

- liquid
- Non-foaming
- Extremely easy to rinse off
- Biologically easily degradable

Ingredients

- Surfactants
- Inorganic acids

Surfaces must be cleaned extremely thoroughly before the actual passivation process. This ensures a clean surface with optimal wettability. We recommend the product deconex® MT 19 for cleaning.

deconex® MT 41

The process parameters (time, concentration, temperature) are to be adapted to the products and materials being treated. The surface quality attained through pre-treatment also has a large impact on passivation.

The same systems and tanks can be used for primary and secondary passivation.

The application conditions for cleaning with deconex® MT 19 can be found in the relevant data sheet.

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

Depending on how the passivation process is applied, the precipitation of heavy metals during wastewater treatment may be unnecessary.

Observe locally applicable waste water and disposal regulations regarding this.

deconex® MT 41 for passivation compliant with ASTM A967.

Instructions for use

For professional use only.

To meet the strictest requirements of medical technology, we recommend using the product deconex® MT 41 in de-mineralised water.

For optimum use, the following is recommended:

- Prevent rinsing shadows in a spray application (check loading).
- Only use ultrasound with due regard for specific process instructions.
- We recommend using de-mineralised water to prevent stains and salt deposits from forming.
- Movement in the medium or bath makes use more effective.

For detailed product and application information please contact your supplier or Borer Chemie AG.

Material compatibility

Suitable for:

- Stainless steel
- Titanium and titanium alloys
- Carbon
- PEEK
- Silicone (handles)
- Teflon
- Various plastics

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

Chemical-physical data

pH value	1% in demineralised water	approx. 2.2
Density	concentrate	1.11 g/mL
Appearance	concentrate	clear, colourless

Passivation - comparison with conventional methods

The passivation process with deconex® MT 41 has been tested and compared with conventional methods for efficacy.

Cr - Fe ratio		Cr oxides - Fe oxides ratio	
Without surface passivation	0.2 – 0.3	Without surface passivation	0.2 – 0.3
NITRIC / CITRIC	0.8 – 1.4	NITRIC / CITRIC	0.9 – 1.9
deconex® MT 19 / MT 41 also for welding seams	2.7 – 3.0	deconex® MT 19 / MT 41 also for welding seams	4.2 – 5.1

The analysis of various substrates using XPS (X-ray photoelectron spectroscopy) after passivation with deconex® MT 41 shows clear results: Our passivation method markedly improves the natural passivation layer. The ratio of chrome to iron or chromium oxide to iron oxide rises significantly. In the area of weld seams, the chrome and chromium oxide concentrations are also significantly increased with this process.

No toxic residue is expected on component surfaces with the use of process chemistry if the provided rinsing variants are adhered to.

The advantages at a glance

The process developed by Borer Chemie AG offers significant advantages over conventional methods:

- Low usage concentrations
- Increased workplace safety
- Gentle on materials
- Apply in closed or open systems
- Apply in immersion, ultrasonic and spraying processes
- Apply in a sluice function (cleaning and passivation)
- Ideal method for electropolished surfaces

Additional information

Information regarding safety in the workplace, storage and disposal / waste water can be found on the safety data sheet for this product.

Delivery

Please ask your representative regarding current container sizes.

The containers, screw caps, seals and labels are made from recyclable polyethylene.

Manufacturer:

Borer Chemie AG

Gewerbestrasse 13, 4528 Zuchwil / Switzerland
Tel +41 32 686 56 00 Fax +41 32 686 56 90
office@borer.ch, www.borer.swiss

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