

## Cleaning Process Indicators for ultrasonic cleaning baths

### Application

The GKE Clean-Record® cleaning process test system is used for validation and routine monitoring of cleaning processes. The indicators can be used in ultrasonic baths for the manual cleaning for all kinds of instruments. The test sheets are placed vertically or horizontally inside the volume to check the intensity of the cleaning process.

Surgical instruments are contaminated with various soils. Depending on the pre-treatment of instruments the adhesion may be different. Body fluids consist 75-85% of water soluble proteins and can be washed off with cold water. Instruments should be cleaned with cold water directly after use before the soils can adhere and before disinfectants are used which are fixing soils.

Many disinfectants fix soils make it more difficult to clean the instruments afterwards. This also applies partly to so-called combination products, which shall simultaneously achieve cleaning and disinfection and which are quite often recommended for use in ultrasonic cleaning baths.

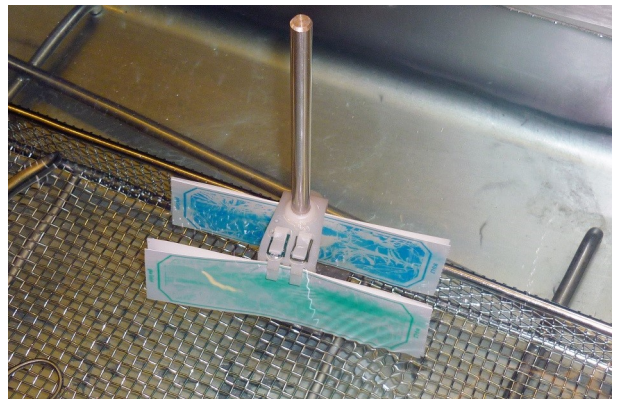
The use of cleaning detergents is very important for the efficacy of cleaning processes. Only water-soluble soils can be washed off with water. Fats and other non-water soluble soils, e.g. lipids or hard baked proteins can only be washed off, if a cleaning detergent is used. Some cleaning detergents are alkaline and hydrolyze the non-water soluble substances by using a high pH-value making them water soluble. This allows washing off the dirt. Other cleaning agents have a neutral pH-value containing enzymes splitting the soils enabling them to be washed off.

Which cleaning agent is most suitable depends on the instruments (design, material, etc.) and the type of contamination (fresh blood, dried blood, bone meal, mucus, etc.).

For all cleaning agents the water quality (hardness, salt concentration) has a considerable influence on the cleaning power.

The indicator versions offered by GKE represent different levels of difficulty to test the cleaning efficiency. It is recommended to test all indicator versions simultaneously with the most difficult instruments to clean in a pre-test.

During validation, it must be assured that the defined cleaning process is suitable to achieve the cleaning success even under the most difficult ("worst case") conditions. For routine monitoring, the one of the four GKE indicators that is just completely washed off with the process tested during validation should then be used.



Anwendung RPI im Ultraschallbad

It is recommended to use these indicators at least once a day in every process used to ensure that there are no changes of the process parameters. It is also recommended to monitor each batch where loads are difficult to clean.

## Product description

There are 4 test sheets of a size of 125 x 56 mm with different wash-off characteristics available to monitor the cleaning efficiency inside the liquid volume in ultrasonic baths. GKE offers three different clip holders to fix the indicator inside the ultrasonic bath at different locations in the volume. This test method offers the possibility to check the cleaning efficacy over time in the same liquid.

## Performance characteristics

The standard EN ISO 15883-5 describes 8 test soils with completely different cleaning properties without making any recommendation, which test soil to use. Currently none of the test soils are offered as a reference, because there is no test method defined to compare the soil properties.

GKE has developed a test method with a spray apparatus (spray test rig), to be able to compare real soils, test soils of the standard and the different GKE Clean-Record® cleaning process monitoring indicators. Comparative tests with a normative standard are not possible since currently no standard is available. Still GKE has already carried out several tests under different cleaning conditions (flow rate,

detergents, dosage, temperature etc.) in order to compare the cleaning characteristics of the above-mentioned materials and GKE indicators. For the first time it is possible to describe the properties of cleaning process monitoring indicators. Test results are available on request.

The indicator colour is non-toxic and is dissolved with most of the cleaning agents and flushed away with the washing fluid.

## Benefits

- Use of synthetic test soils on plastic carrier instead of using natural test soils with blood prevent transfer of pathogenic germs and offers long-term stability and long expiry dates.
- Cost-effective due to rational production, enabling long-term economical routine monitoring for the first time.
- Easy documentation because of self-adhesive indicators.
- All accessory parts of the holder are made of durable materials and are maintenance free. They can be used for an unlimited number of cycles. The cleaning efficacy can be tested in all three dimensions of the volume using special holders.
- The cleaning efficiency can be checked at regular intervals if the same ultrasonic cleaning bath is used for a longer period of time.
- Easy to use.

## Order information

### Test sheets for ultrasonic cleaning baths

Art. no.	Quantity	Product code	Test version		Application
800-111 810-112	40 120	W-U-CPI-Y	Yellow	Different wash-off characteristics	Test sheets (indicator) for routine monitoring to test the cleaning efficiency in ultrasonic baths with different sensitivities
800-211 800-212	40 120	W-U-CPI-G	Green		
800-311 800-312	40 120	W-U-CPI-B	Blue		
800-411 800-412	40 120	W-U-CPI-R	Red		

### Halterung für Prüfbögen

Art. no.	Quantity	Product code	Content	Application
800-115	1	W-U-HO-7	with 7 cm stainless steel bar	to fix the indicator horizontally or vertically inside the basin volume.
800-116	1	W-U-HO-20	with 20 cm stainless steel bar	
800-117	1	W-U-HO-40	with 40 cm stainless steel bar	