

To  
NSK Europe GmbH  
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Germany

Schwerin, 6th of April.2020

**Certificate**  
**on the effectiveness of the preparation process of**  
**dental high speed handpieces with**  
**n.cid and n.clean against Corona viruses,**  
**especially against the new Coronavirus (Covid-19)**

The product **n.cid** is a ready-to-use solution from NSK Europe GmbH for the preparation of dental high speed handpieces. When used as intended, it must be applied in combination with the cleaner **c.clean**, according to the manufacturer's instructions.

**n.cid** is based on an alcohol combination (45g ethanol + 15g isopropanol in 100g) with chlorhexidine digluconate (0.1g), trialkylethoxyammonium propionate (0.08g), alkylamine derivatives (0.05g) and several special additives to ensure important application properties, especially the material compatibility.

The product has proven to be effective in phase 2, step 1 suspension tests against enveloped and naked viruses. According to an expert certificate of Dr. Steinmann, dated June 3, 2014, it inactivates BVDV and Vaccinia virus within 30 seconds. The efficacy against Murine Norovirus was also confirmed within this exposure time (expert opinion from Dr. Steinmann dated 6th of May 2011). The same applies to the effectiveness against adenovirus with an exposure time of 3 minutes (expert opinion from Dr. Steinmann dated 13th of March 2012).

In addition, **n.cid** also proved to be virucidal on surfaces in accordance with the germ carrier test phase 2, step 2, and showed a good activity against Adenovirus type 5, Murine Norovirus and Vaccinia virus with an exposure time of 2 minutes on non-porous surfaces. (Expert opinion of Prof. Werner, 30th of September, 2013 done according to RKI / DVV germ carrier test, version of 2012).

Corona viruses belong to the group of enveloped viruses. Usually they cause a mild respiratory or intestinal infection in humans. The recently emerged strain 2019-nCoV makes an exception, as it can lead to a life-threatening respiratory disease. In terms of its dangerousness, it could therefore be compared to the classic flu, caused by the influenza A virus.

But as an enveloped virus, this new Coronavirus is not more resistant to disinfectants and disinfection processes than all other enveloped viruses and it is significantly less resistant than naked viruses.

**This means that the undiluted product n.cid, based on the available expert reports, can be certified as effective against Corona viruses within 2 minutes of contact time when it is used as intended according to the manufacturer's instructions.**

A handwritten signature in blue ink that reads "F. v. Rheinbaben".

PD. Dr. Dr. F. v. Rheinbaben