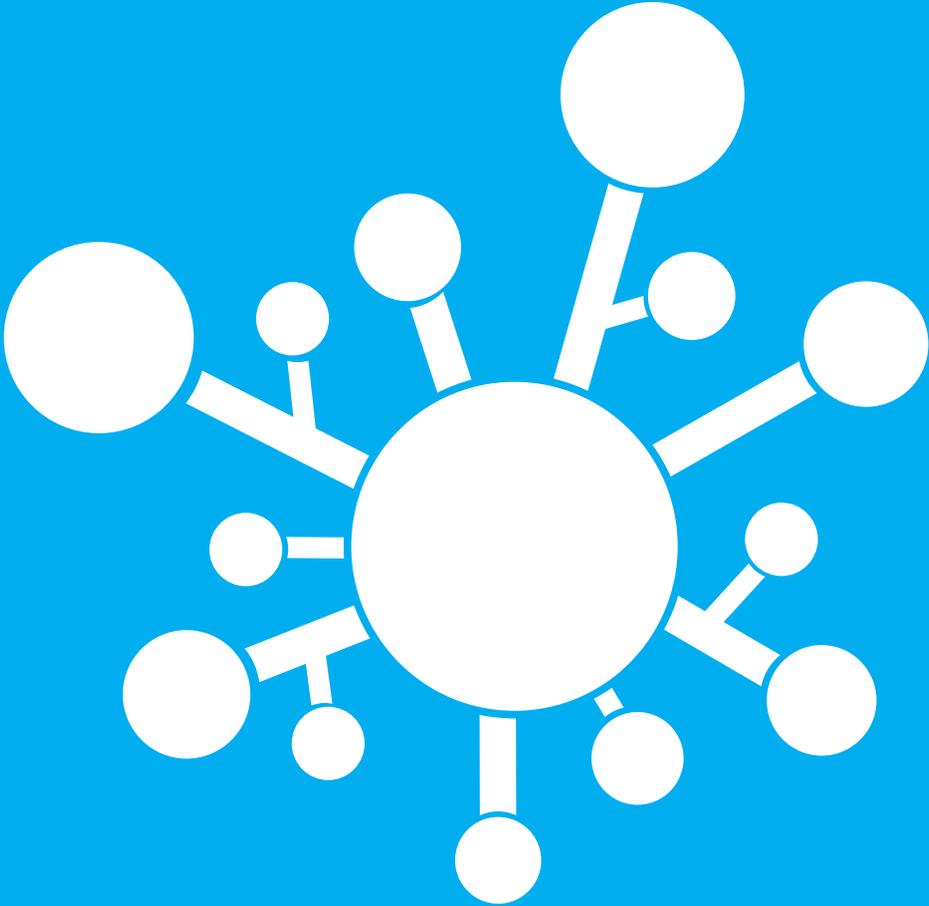




Clean
Hygienic
Sustainable



Cleaning with micro-organisms

NVZ Guidance

Cleaning with micro-organisms

Cleaning with micro-organisms has increased in popularity. More and more 'microbial cleaning products' are available on the market: products with intentionally added micro-organisms. Despite this increase however, many misconceptions and uncertainties still exist around this product category. In this guidance you will find, based on some frequently asked questions, more information about microbial cleaning products.

What are microbial cleaning products?

A microbial cleaning product is a product that contains micro-organisms with certain cleaning and/or odour control properties. These micro-organisms can secrete enzymes that can break down organic matter (dirt) like grease or urine. Inorganic matter, like chalk, cannot be broken down by micro-organisms.

Which micro-organisms are used in cleaning products?

Microbial cleaning products usually contain spores of bacteria, for instance of the 'Bacillus' species. Bacterial spores can only be used when they are proven to be harmless to human health. The acronym 'GRAS' (Generally Recognized As Safe) is used here. The U.S. federal Food & Drug Administration (FDA) reviews which bacterial spores can be approved as safe. Some (professional) microbial cleaning products may also contain certain yeasts or fungi instead of bacterial spores.

What are bacterial spores?

Microbial cleaning products that have bacteria as added micro-organisms, contain spores of those bacteria. A spore is a dormant survival-structure of a bacterial cell which has an inactive cell metabolism and division. Key characteristic of these spores is that they can survive in unfavourable conditions. When bacterial spores come into contact with a source of nutrient from organic matter (dirt), they progress into an active, vegetative form. In this form they are again able to break down organic matter through the secretion of enzymes.

What are the limitations of microbial cleaning products?

The composition of the product and the use conditions should be such that outgrowth of the micro-organism can occur. This means that microbial cleaning products are not suitable for every situation or every type of dirt. As stated before, the enzymes formed by micro-organisms are only suitable for breaking down organic matter. Although microbial cleaning products may also contain 'traditional' surfactants for cleaning inorganic dirt particles, some types of dirt (like chalk) can only be cleaned by using acidic or alkaline products. Unfortunately, micro-organisms cannot survive in an acidic or alkaline environment. There are also certain areas that should not be cleaned using microbial cleaning products, like sterile rooms, open air treatment systems or

Difference between microbial products and enzymatic products

Microbial cleaning products work on the principle that the micro-organisms in the product form enzymes that can break down organic matter in a controlled manner. The organic dirt itself is used as 'nutrition' to produce and secrete enzymes. In enzymatic products enzymes are added directly as an ingredient of the product; they do not contain micro-organisms.

surfaces intended to come in direct contact with food. Moreover, microbial products should not be used in situations where they can reach an aerosolised form and thus be easily inhaled. Exceptions may be applicable if an extensive risk assessment has been performed to ensure safety in these situations.

Can microbial cleaning products be used safely?

Yes. Manufacturers of such products need to comply with all applicable legislations, regardless of the added micro-organisms. These legislations impose a number of obligations that ensure the safety of products put on the market. For instance, the micro-organisms used in the product may not be pathogenic. The General Product Safety Directive and it's national implementations in European Member States obliges manufacturers that all products brought on the consumer market are safe. For professional products the Occupational

Health & Safety legislation is applicable, which states that the employer should establish management measures for all potential risks to the employees. In any case, it is always necessary to follow the use instructions of the product to ensure safe and efficient use.

Can microbial cleaning products contain genetically modified organisms?

No. The EU has strict legislation on genetically modified organisms.

Can microbial cleaning products be combined with other cleaning- or disinfection products?

No. Combining and/or the simultaneous use of different products is always discouraged, unless specifically instructed.

Can microbial products also be used for disinfection?

Yes. Disinfectants do however, regardless of added micro-organisms, have to comply with the European Biocidal Products Regulation. This legislation states that for such products an authorisation by the national Competent Authority (CA) is required, before the product can be placed on the market. In the authorisation process, the CA determines whether (and how) the product can be used safely and effectively.

What should you do if you accidentally spill a microbial product on your hands or eyes, or if the product is swallowed or inhaled?

What to do in this situation is dependant on the ingredients in the product. First aid measures may differ between each product. Always consult the information on the product label (or for professional products the Safety Data Sheet). However, for the slightest doubt (especially after swallowing or inhaling) it is always advised to consult a physician and show him the product you were exposed to.

Do microbial cleaning products have an expiration date?

The efficacy of a microbial product may diminish over time, depending on a variety of factors. Always refer to the label for information on expiration.

Colophon

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