# Activity 2.5: Comparison of the effectiveness of different household detergents14

## Apparatus and materials

5 petri dishes (with lids) with nutrient agar for usage as contact plates

different household detergents (such as Bref Power®, DER GENERAL®, Sargrotan®; all of these detergents have antimicrobial claim, for reference purposes, other detergents might be investigated also)

overhead marker

tape (e.g. Tesa® film)

cotton swabs (sterile, new box), sterile moistening liquid (e.g. water)

paper towel

hand disinfectant

## Safety

Observe all safety measures regarding the handling of bacteria and acids/bases as printed on the cleaners’ labels! Wear your safety goggles! After sealing the petri dishes, do not open them again!

## Procedure

* Divide surface to be tested into five parts.
* Clean the first part with a disinfectant according to its instructions. Clean the second part with an all-purpose cleaner according to its instructions. Clean the third part with an antibacterial all-purpose cleaner according to its instructions and the fourth with warm water. Use part number 5 as a reference, that is leave the surface without any cleaner applied.
* Touch the cleaned surface with a petri dish or wipe the table with a moistened cotton swab taken from a newly opened box. Then wipe the cotton swab in zig-zag lines across the agar. Seal the contact plates immediately with tape. Note on each plate which cleaner has been used on the surface before. Incubate plates for 48 hours at 37°C or 5-7 days at room temperature.
* After incubation, compare the different plates.

## Disposal

* Contact plates should be sterilized / autoclaved.
* All material that has had contact with bacteria should be disinfected.

14 Source (adapted from): Wagner, Günter und Blank-Rothenburg, Helga (2001). Bei welcher Temperatur wird Wäsche hygienisch sauber - Wirksamkeit verschiedener Haushaltsreiniger auf ihre antibakterielle Wirkung. *Naturwissenschaften im Unterricht - Chemie,* 12(63), 51-52.