



HY-RiSE[®] Colour Hygiene Test Strip

1.31200.0001

1. Purpose of kit

The HY-RiSE[®] kit provides a method for assessing the general cleanliness of surfaces and Cleaning In Place (C.I.P) rinse water.

The test indicates cleanliness by measuring organic surface or C.I.P rinse water contamination in the form of product residues left after inadequate cleaning. Surface contamination can lead to rapid growth of microbes. Measurements made with the HY-RiSE[®] can provide early warning of possible contamination on specific surface areas allowing immediate corrective action (e.g. removing food & beverage soil). On visibly clean surfaces the test can reveal the presence of product residues invisible to the eye, therefore indicating hidden potential for microbial growth.

Regular use of the HY-RiSE[®] provides a simple and effective means for monitoring standards of cleaning as part of an integrated hygiene programme.

2. Method

Product residues in the form of Nicotinamide adenine dinucleotide (NAD, NADH) and Nicotinamide adenine dinucleotide phosphate (NADP, NADPH) are detected specifically by an enzymatic reaction which forms a pink/purple to bluish violet colour on the test zone of the strip. The higher the intensity of the colour development on the test zone the more NAD(P)H was present on the sampling area. Testing of surface cleanliness is performed after cleaning and rinsing of the cleaning / disinfecting agents (see 7. Remarks).

3. Typical Applications

Post cleaning assessment of food and hand contact surfaces e.g. worktops, slicers, cutting boards, fridge handles, microwaves and also hands. Testing of final rinse water from food manufacturing plant Cleaning In Place systems.

4. Package contents

50 test strips, individually sealed in aluminium foil,
1 bottle reagent A (wetting solution, white screw cap) , 2.5 ml
1 bottle reagent B (substrate solution, yellow screw cap) , 2.5 ml
1 bottle reagent C (enzyme solution, blue screw cap) , 2.0 ml
for 50 determinations.

5. Storage conditions

In the un-opened package the test strips and the reagents A, B and C are stable up to the expiry date stated on the package when stored at +2 to +8 °C. Protect from light.
Do not use after expiry date.

After first opening of each bottle and while in use, the contents will remain stable for 12 weeks when stored at +20 to +25 °C, if immediately re-sealed with the same screw cap after each use and contamination, e.g. by bacteria, is avoided. Protect from light.
Do not use the kit anymore after storage for ≥ 12 weeks at +20 to + 25 °C or higher.

Alternative: After first opening of each bottle and while in use, the contents will remain stable for 6 months when stored at +2 to +8 °C, if immediately re-sealed with the same screw cap and refrigerated after each use and if contamination, e.g. by bacteria, is avoided.

6. Instructions for use

Note the date of the first use of your kit on the box label (see storage conditions).
Perform the test between 15 and 30 °C environmental temperature.
Allow reagents A, B, and C to reach 15 – 25 °C prior to use.

1. Tear open the foil package at the coloured line and remove the test strip from the foil. See figure 1. Write the sample number on the strip. Avoid to touch the paper pad on the strip at any stage of the procedure.



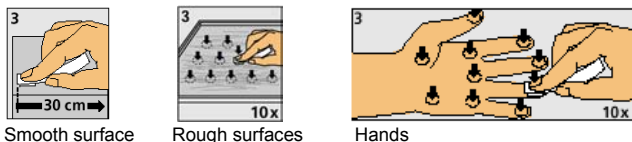
2. Add one drop of **Reagent A** (wetting solution, pure water, white screw cap) to the pad at the end of the strip. See figure 2. Close reagent vial A immediately by screwing the cap on tightly.



Note: If the test surface is wet, do not use Reagent A.

3. **Sampling for testing surfaces:**

In case of smooth surfaces, place the entire test strip pad onto the test surface and draw back approximately 30 cm in sample area. This can be one 30 cm wipe or multiple wipes e.g. 3 x 10 cm. On rough surfaces, collect sample by pressing the test strip pad onto a minimum of ten different spots on the surface. For hand testing, sample each fingertip and five spots on the palm of the hand. See figure 3.



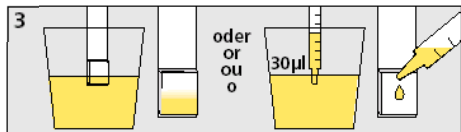
Smooth surface

Rough surfaces

Hands

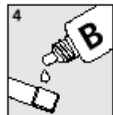
Sampling for testing Clean in Place rinse waters:

Do not use Reagent A. Dip the test strip pad into the rinse water so that half of the pad is wet. Alternatively, use a pipette and transfer 30µl sample onto the pad.



Note: After sampling, the test strips can be left for up to 2 hours at room temperature (up to 25 °C) before further processing, if they are returned to the packaging.

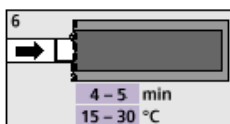
- Add one drop of **Reagent B** (substrate solution, yellow cap) to the test strip pad. See figure 4. Close reagent vial B immediately by screwing the cap on tightly.



- Add one drop of **Reagent C** (enzyme solution, blue cap) to the test strip pad. See figure 5. Close reagent vial C immediately by screwing the cap on tightly.



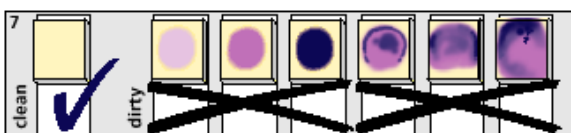
- Return test strip to foil packaging so that the pad is covered. Leave for **4-5 minutes in the dark**. See figure 6.



- The test strip can be read at any time between 4 and 8 minutes, however, **the recommended reading time** is 4-5 minutes after addition of Reagent C.

- **Yellow** colour of the pad indicates a Clean/PASS condition. There are no or undetectable levels of residue on the surface.
- **Pink/purple to bluish violet** colouring of the pad indicates a Dirty/FAIL condition. There are detectable levels of residue on the surface. The surface should be re-cleaned.

See figure 7. for examples of PASS/FAIL conditions marked clean ✓ and dirty **XX**.



Clean/pass

dirty/fail, re-cleaning is recommended

- Document test results on the table to be found in the test kit.

7. Remarks

- For consistent results make sure the same test location and size of test area is assessed each time.
- Do not touch the test strip pad to avoid cross-contamination from hands.
- Do not touch the dispensing tips of the bottles to avoid cross-contamination of the reagents.
- To avoid evaporation and loss of the reagents, close the bottles tightly after each use.
- Do not mix bottle caps.
- In general HY-RiSE® is relatively unaffected by residual cleaning agents left on surfaces after cleaning provided that they have been used in accordance to the manufacturers instructions and properly rinsed away. Typically, if the concentration of the residual cleaning agent is 5% or less of working strength then there should be no significant effect on the operation of the HY-RiSE® test.
- Strong alkaline (pH >13.5) and acid (pH <2) based cleaning agents may interfere with the HY-RiSE® test if they are not properly rinsed and the surface tested is near the limit of test sensitivity.

9. General safety

Whilst there are no specific hazards associated with the use of the reagents in this kit, care should be taken to avoid contact with skin or eyes. In the case of contact with the skin or eyes, wash immediately with water.

