

Media Type - Inactivator Solution (Non pharmacopeial formulation)

Inactivator solutions are used in environmental monitoring microbiology to neutralise the residual activity of disinfectants. This is crucial to avoid false negative results.. Many different disinfectants are being used to prevent biocontamination at manufacturing facilities, therefore it is important to select the appropriate neutraliser formulation.

Primary Use: Neutralising antimicrobial agents on surfaces or equipment, ensuring that any microorganisms present can grow without being inhibited by the disinfectants.Used as a wetting agent for swabs that are used for sampling inaccessible areas for contact plates, strips, or slides (e.g., corners, crevices, and equipment in the work zone).

“The EN 1650 test method “Chemical disinfectants and antiseptics - quantitative suspension test for the evaluation of fungicidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic, and institutional areas” is a European standard that specifies the use of an appropriate neutralising solution during the testing process. The standard outlines that after the contact time of the disinfectant with the test organisms, the mixture must be neutralised using an appropriate neutralising solution to stop the action of the disinfectant and allow for accurate enumeration of surviving microorganisms.

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The following table states the test criteria for the surface and hand disinfection for the food, domestic and industrial market:

BS EN 1650:2019 (Phase 2, Step 1)	General Purpose Disinfection	Hygienic Hand Wash	Hygienic Hand Rub / Sanitisers
Mandatory Test Organisms	Candida albicans Aspergillus brasiliensis	Candida albicans	Candida albicans
Test Temperature	In a range from 4°C to 40°C	20°C	20°C
Contact Time	In a range from 1 min to 60 min (from 1 min to 5 min at intervals of 1 min to 5 min to 60 min at intervals of 5 min)	30 s or 60 s	30 s or 60 s
Conditions	Clean or Dirty depending on manufacturers usage instructions	Dirty	Clean
Log Reduction Required To Receive A Pass	>4 Log	>2 Log	>4 Log

Using the Inactivator solution as a neutralising solution will help to ensure that the test results reflect the true microbial load to achieve reliable results.

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As the EN 1650 is mandatory for the European market every disinfectant for hands and surfaces should have this before being released into the market. The only exception to this would be if you are selling into the medical or veterinary market and in which case other suspension tests are required instead.

Common Neutralising Agents:

Neutralising Agent	Inactivates
Polysorbate 80	Phenolic compounds, hexachlorophene
Lecithin	Quaternary ammonium compounds
Sodium Thiosulphate	Iodine, chlorine-based disinfectants
Histidine	Aldehydes, peroxides
Cysteine	Aldehydes
Thioglycolate	Mercurial compounds

Typical Composition:

Component	Amount (per litre)
Lecithin	20.0 g
Tween 80	30.0 mL
Sodium Thiosulphate	10.0 g
Sodium Hydroxide	1.0 mL

pH - 7.0 ± 0.5

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