DETERGENTS AND DISINFECTANTS



Keeping a cleanroom under control relies on using the right products at the right times:

DETERGENTS	DISINFECTANT	SPORICIDE	ALCOHOL
Remove soiling before disinfecting (Clean)	Kill microbes (Disinfect)	Kill spores (Deep Disinfect)	Fast, frequent in-process disinfection (Rapid Disinfect)

This approach supports compliance with EU GMP Annex 1 and ISO 14644.

DETERGENTS (Step 1: Cleaning)

- Used to clean surfaces and remove soiling, particles and residues before disinfection
- Helps lower contamination so disinfectants are more effective
- They do not kill microbes (they have no biocidal actives)
- The Surfactants lift soiling and the Wiping/Mopping physically removes it
- Used daily or as needed

DISINFECTANTS (Step 2: Microbial Control)

- Reduces microbes to a safe level
- Different actives target different types of organisms
- Tested against bacteria, yeasts, moulds and viruses
- Must comply with Biocidal Products Regulation (BPR) in the EU or UK

WHAT DOES A GOOD CLEANING PROGRAM INCLUDE?

- Clean first with an appropriate detergent
- Use a broad-spectrum disinfectant for routine control
- Rotate disinfectants with different modes of action
- Use sporicides periodically to eliminate resistant organisms/spores
- Use alcohols frequently for rapid in-process disinfection
- Validate and monitor the cleaning system to prove ongoing control

WHAT IS THE DIFFERENCE BETWEEN DISINFECTION AND STERILISATION?

- Disinfection reduces microbes
- Sterilisation kills all microbes (e.g. autoclave, gamma irradiation). Disinfectants do not sterilise

WHAT ARE THE TYPES OF DISINFECTANTS?

- **Broad-Spectrum Disinfectants** (Routine Use)

  Kill: bacteria, yeasts, moulds, enveloped viruses

  Common ingredients: QACs (quaternary ammonium compounds), Triamines, Low-level peroxide or chlorine

  Benefits: Good overall efficacy, Compatible with many surfaces, Low odour, Low residue, Non-flammable

  Limitations: Not sporicidal, Can leave some residue, Can take longer to dry

  Notes: Rotation with another disinfectant with a different mode of action is recommended

- **Alcohols** (Fast, In-Process Use)
  Typically, 70% IPA or 70% IMS (denatured ethanol)

  Benefits: Very fast acting, Quick drying, Low residue

  Best for: Gloves, Work surfaces, Material transfer points

  Limitations: Not effective against spores, Limited activity against fungi and some viruses, Evaporates quickly so may not achieve full contact time, Highly flammable, Workplace exposure limits restrict use on large areas (e.g., floors)

- **Sporicides** (High-Level / Periodic Use/ Deep Disinfection)

  Kill: Bacterial spores (the toughest form of microbes)

  Benefits: Full spectrum activity (bacteria, fungi, viruses, spores)

  Common ingredients: Hydrogen peroxide, Peracetic acid, Hypochlorite's / hypochlorous acid

  Frequency: Monthly rotation, After contamination events, After maintenance or shutdowns

  Limitations: More hazardous, Corrosive to surfaces, Often leaves residue which require rinsing



Written by
Tasmin Crompton, Technical Lead

Microncleanprovides specialist technical expertise in cleanroom garments, consumables and contamination control. For further guidance related to this topic, please get in touch at sales@microncleanco.uk.

Microncleanltd | Roman Bank | Skegness | Lincolnshire | PE25 1SQ
T. 01754 767377 | E. sales@microncleanco.uk | W. www.microncleancom