

LVL "System Clean"



Concentrate
Content: 1,000 ml

Carry Stop Concentrate (low ionic)

Carry Stop is designed for use as an additive for the system fluid in pipetting and analytical systems. It is thus always present and active during the working routine of the automatic pipetting and analytical system. Carry Stop only contains a special non-ionic tenside and thus no detergents of any kind as found in "universal cleaners". This results in three decisive advantages for the safety of laboratory automation:

- Carry Stop prevents the growth of microorganisms as the robot works through its routines. However, Carry Stop does not exert any disruptive effects on the function of enzymes and substrates in immunological test procedures.
- Carry Stop promotes the discharge of adhering sample material from the hose / needle system during purging on completion of the pipetting process. Contamination of the subsequent sample is prevented (no carry-over effect).
- The conductivity of Carry Stop is equal to that of distilled water. Spurious detections by the pipetting needle systems that can be caused by ionic detergents in standard commercially available additives for the system fluid are suppressed (no so-called air detection).

We would be pleased to send you more information about our cleaning reagents such as safety datasheets, analysis certificates and usage instructions. We are also happy to name our reference customers. Please contact us if you have any questions.



LVL technologies • Theodor-Storm-Straße 17 • 74564 Crailsheim
Tel.: 07951 95613 20 • Fax: 07951 95613 33
info@lvl-technologies.com • www.lvl-technologies.com



Why clean is not always clean

What you should know about the cleaning of your
pipetting robots and other analytical devices

www.lvl-technologies.com

It is well known in all laboratories that minor contaminations can be created when working with diagnostics and other chemicals, which act as a buffer and encourage bacterial colonisation. Basically, all automatic analysis devices that operate by fluid displacement are affected by this problem. Tubes, valves and pipette tips (fix tips) are thus potentially at risk.

However, the contaminated systems are not always as clean as is necessary to ensure accurate analysis results and the complete reliability of the devices concerned. On the one hand this depends on the frequency of cleaning cycles, but to an even greater extent it depends on the cleaning agent selected.

Hypochlorite

Many cleaning agents contain hypochlorous acid, widely known as hypochlorite. Hypochlorite can be unreservedly recommended in relation to cleanliness and sterility. However, it has two big drawbacks. Firstly, chlorine ions frequently accumulate in inaccessible places and then react with the corresponding substances, causing qualitative distortions in analyses. Secondly, the cleaning agent is highly corrosive and reacts with the inside of the steel needles, leading to yet more carry-over.

Alcohols and solutions containing alcohol

Alcohols such as isopropanol and solutions that contain alcohol also have several drawbacks, which make them unsuitable for cleaning the above systems. Firstly, the softeners in standard tubes made of silicone and other materials are massively degraded by alcohols, considerably reducing the service life of tubes etc. Secondly, although alcohol is a disinfectant and is therefore often the right choice for cleaning large surfaces, such as laboratory worktops, alcohol does not actually clean, as it is not able to effectively remove contaminations. Before this can be done, the molecules must be "broken down" or denatured into the smallest possible units with alkaline agents and then "packaged" or micellated, after which they can be washed away. Thirdly, the perfume oils in many solutions containing alcohol disrupt the required reactions.

Detergents

Detergents – derived from the Latin for "wiping off" – only rinse, they do not clean and disinfect. This is also because the common detergents are industrial chemicals that contain phosphates, silicates and many other substances. Detergents are not pro-analytical substances and should therefore not be used for cleaning and disinfecting tube systems.

Acidic cleaning agents

The big disadvantage of strongly acidic cleaning agents is that proteins can become fixed in the tube system and thus result in analytical contaminations.

LVL "System Clean"

An effective cleaning reagent for pipetting and analytical robots in chemical analytical and medical diagnostic laboratories is expected to effectively clean and condition the inner surfaces of tubes, valves, pipette needles and reagent vessels while not damaging the equipment materials. Such a universal cleaning reagent by definition represents a compromise between partially contradictory requirements (e.g. in relation to the pH value, the tenside structure, its ionic / non-ionic character, the charge distribution etc.). But compromise in the highly sensitive "laboratory automation" field can hardly be tolerated.

It is for this reason that LVL has developed "System Clean", which consists of three individual biologically degradable solutions that have been optimised for the specific application:

- **Set Up Clean concentrate** – for the basic cleaning of heavily contaminated systems
- **Daily System Clean concentrate** – for daily cleaning after running
- **Carry Stop concentrate** – for continuous cleaning as an additive



Concentrate
Content: 500 ml

Set Up Clean concentrate

Set Up Clean is an intensive alkaline cleaning agent for analytical and pipetting robots. Set Up Clean concentrate is a combination of three highly effective tensides for removing biological deposits. The strong microbiocidal and cleaning action is proven to ensure improved removal of stubborn contaminations – such as by microbes, proteins, lipids and anorganic substances – at places that are not accessible to mechanical cleaning. Even so, the concentrate is gentle on equipment surfaces.

Set Up Clean concentrate

- is able to attack even encapsulated films of microbial fungi, algae, bacteria and viruses in heavily contaminated automatic systems
- ruptures the germ cell walls (killing off all microbes, even encapsulated viruses)
- accelerates the breakdown of the material surface by micelle formation
- ensures that floating microbial fragments are flushed out of the system by rinsing



Concentrate
Content: 500 ml

Daily System Clean concentrate

Daily System Clean is a weakly acidic cleaning agent with a pH value of 4. It is designed for regular daily cleaning of the automatic system at the end of the daily routine. Like Set Up Clean, a cocktail of specific highly active cationic and non-ionic tensides generates an intensive cleaning action. Daily System Clean is, however, less aggressive than the highly alkaline Set Up Clean. Due to the solution's weakly acidic character, established microbial films cannot be "dislodged". Smaller microbial colonies in the tube system that form daily can however be effectively broken up and washed away during rinsing. The formation of microbial films is nipped in the bud.

The combination of Set Up Clean and Daily System Clean is ideal for the care of laboratory robot systems.