

## Disinfectant #10: Patented Accelerated Hydrogen Peroxide® (AHP®) Have we found the silver bullet?

In May, the Chemistry Blog focused on [Hydrogen Peroxide](#). Now, you might wonder, why then would we dedicate a second blog to Hydrogen Peroxide. Aside from the fact that Accelerated Hydrogen Peroxide (AHP) formulations are patented, the primary reasoning is that these formulations truly stand out as unique and novel technologies that warrant further discussion.

Ever since the progression of the medical sciences various chemicals have been used as active ingredients for disinfection and sanitization, with the newer actives being more effective, safer, and easier to use. Currently, the most common disinfectants use quaternary ammonium compounds (QUATS), alcohols, or sodium hypochlorite (bleach) as their active ingredients. **The use of above actives imposes various problems such as user hazards, efficacy limitations, and negative environmental effects. Accelerated Hydrogen Peroxide (AHP) has successfully tackled all these issues.**

This is how we would rate Accelerated Hydrogen Peroxide (AHP) disinfectants based on the key decision making criteria: (see below)

### Accelerated Hydrogen Peroxide® (AHP®) Disinfectant Report Card

Subject	Grade	Comments
Speed of Disinfection	<b>A to B</b>	Formulation dependent, surface disinfectants range from 30 second sanitizing to 10 minute disinfection, Sporidical Surface Disinfectant in 10 minutes, High Level Disinfectants for Instrument disinfection 5 minute disinfection and Chemical Sterilants in 20 minutes.
Spectrum of Kill	<b>A</b>	Similar to above, spectrum of kill is formulation dependent. Depending on the Improved Hydrogen Peroxide formulation they are capable of killing all microorganisms; bacteria, viruses, fungi, mycobacteria and spores.
Cleaning Effectiveness	<b>A</b>	Excellent cleaning capabilities as the formulations include a blend of non-ionic and anionic surfactants which are known to provide superior cleaning in conjunction with H <sub>2</sub> O <sub>2</sub> which also aids in cleaning.
Safety Profile	<b>A to B</b>	At their in-use concentrations, surface disinfectants are non-toxic and non-irritating for users. Instrument disinfectants are non-toxic and do not require special ventilation systems.
Environmental Profile	<b>A</b>	H <sub>2</sub> O <sub>2</sub> degrades into water and oxygen. Some Improved Hydrogen Peroxide surface formulations have been developed to achieve Eco-certifications such as EcoLogo and EPA's Design for the Environment (DfE).
Cost Effectiveness	<b>B</b>	Is readily available from manufacturers and can be found in both concentrated and ready-to-use formats.

Accelerated Hydrogen Peroxide (AHP) Peroxide formulations contain varying levels of Hydrogen Peroxide in combination with [anionic and /or non-ionic surfactants](#) (detergents), and other inerts such as [chelating agents](#) and [wetting agents](#). This combination of chemicals works in synergy to provide exceptional cleaning efficiency but most importantly, from an infection prevention perspective, boosts the antimicrobial speed and spectrum of efficacy of hydrogen peroxide. Accelerated Hydrogen Peroxide (AHP) leaves no residues on applied surfaces as it turns into water and oxygen upon drying, and imposes no use or environmental hazards as its use concentrations and decomposition products are very low and thus safe. **In fact, Accelerated Hydrogen Peroxide (AHP) formulations have attained the lowest toxicity category as defined by the US EPA.** As Category IV classified compounds they are considered practically non-toxic and non-irritating.

The Patented Accelerated Hydrogen Peroxide (AHP) formulations are available in various concentrations ranging from 0.5% to 7% and varying applications. As per the advantages described above, Accelerated Hydrogen Peroxide (AHP) is a well-rounded active ingredient that has **no limitations** in its use at ranges of product types. At concentrations of only 0.5% Accelerated Hydrogen Peroxide (AHP) formulations **can be used for cleaning and disinfection** of environmental surfaces and non-critical devices. Accelerated Hydrogen Peroxide (AHP) formulations with peroxide concentrations higher than 2% **can be used as high level disinfectants and chemosterilants**; solutions that can be used to submerge semi-critical and critical medical devices. Utilization of Accelerated Hydrogen Peroxide (AHP) in hand sanitizers is another new method for skin surface sanitizers. **Its use provides superior antimicrobial efficacy without endangering the users by skin sensitization, toxic chemical residue leftover, or risks of oral consumption abuse.** Similar to the dermal applications, the use of Improved Hydrogen Peroxide for animal hygiene is also another advantage to produce animal care products that are both safe and effective. Due to generally high compatibility and low corrosiveness of Improved Hydrogen Peroxide, its disinfectant solutions are also used to disinfect a variety of sensitive medical instruments and apparatuses. Improved Hydrogen Peroxide is not limited in its uses; more areas of development are considering its use while its acceptance among the end users is growing due to its advantages.

Depending on application Improved Hydrogen Peroxide formulations are utilized within a spectrum of various concentrations.