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Peragreen® 26WW: Sustainable Disinfection for Municipal Wastewater

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Why Wastewater Needs a New Solution

Wastewater treatment facilities operate at the intersection of public health, infrastructure planning, and environmental stewardship. Today's municipal plants must manage not just treatment performance, but rising infrastructure costs, tightening regulations, and community expectations. As challenges grow more complex, there's now strong momentum to seek out disinfection solutions that align with operational realities and future goals.

This reality sets the stage for understanding why new disinfection solutions like peracetic acid are necessary for wastewater facilities.

Understanding Peracetic Acid (PAA)

Peracetic acid is becoming the technology of choice for municipal wastewater plants seeking effective, sustainable treatment. Unlike older chemistries, PAA offers broad-spectrum pathogen control and breaks down cleanly, positioning it as a solid option for water reuse and stringent environmental standards. Its use represents a shift toward responsible, future-proof disinfection.

- ☑ Rapid inactivation of broad range of pathogens
- ☑ Decomposes to water, oxygen, and acetic acid with no persistent chemical load
- ☑ No significant impact on BOD due to low use concentration
- ☑ Adaptable to urban systems facing population growth and resource challenges

Now, let's see why older forms of disinfection can be problematic for modern municipal wastewater operations.

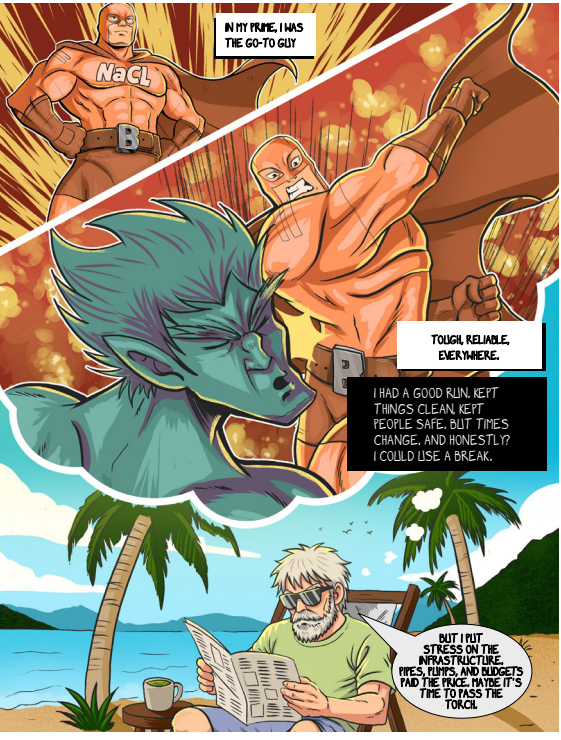
PAA's value lies equally in its chemical efficacy and its ability to fit seamlessly into the operational requirements of modern water utilities.

The Bleach Dilemma

Chlorine and bleach have underpinned disinfection for decades, but the economics and risks are changing. As plants age, the drawbacks of these chemicals—maintenance costs, safety incidents, and regulatory hurdles—are coming into sharper focus. Facilities must consider whether legacy solutions still fit tomorrow's requirements.

- ☑ Equipment corrosion, raising risk of breakdown and replacement
- ☑ Byproduct monitoring (THMs, HAAs) drives up compliance cost and complexity
- ☑ Strict handling rules and hazard mitigation for operatorsHeightened concern from communities and stakeholders about chlorinated effluent releases into local water bodies

These and other factors show why alternative disinfection methods like PAA offer easier adoption and improved risk profiles compared to bleach.



How PAA Works

PAA distinguishes itself by the way it helps eliminate pathogens. By breaking elemental bonds in essential proteins, it acts rapidly and reliably—even under variable plant conditions. Its effectiveness doesn't hinge on controlled lab settings but is demonstrated in real-world facilities.

- ☑ Disrupts sulfhydryl and disulfide bonds in microbial enzymes and proteins
- ☑ Damages vital cell structures to ensure broad microbial inactivation
- ☑ Proven to reduce harmful disinfection by products and lower energy consumption, especially when used with UV
- ☑ Eliminates dichlorination requirements

With these scientific properties in mind, let's take a closer look at **Peragreen® 26WW**'s benefits.

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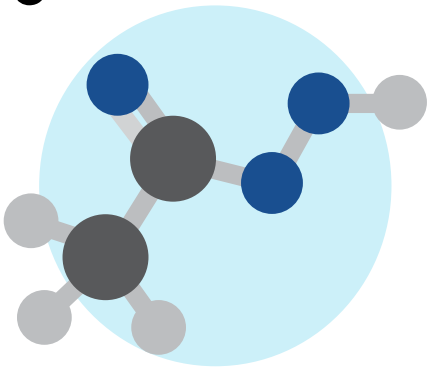

PERACETIC ACID (PAA)

Peragreen® 26WW – A Smart Choice for Wastewater

Peragreen® 26WW is purpose-built for municipal wastewater challenges, balancing effective disinfection with plant safety, ease of integration, and regulatory certainty. Facilities adopting **Peragreen® 26WW** are investing in both current operations and future compliance.

- ☑ Fast microbial reduction over a wide pH range and flows
- ☑ Eliminates the need to monitor or neutralize regulated chlorinated byproducts
- ☑ Seamless retrofit possibilities with most existing bleach and UV setups
- ☑ Improved safety and storage conditions for staff, with fewer hazards
- ☑ Typical cost reductions through less equipment damage and regulatory risk
- ☑ Dosing System: Inline, flow-paced
- ☑ Contact Time: Usually 5–30 minutes
- ☑ Monitoring: Automated residual sensors for regulatory reporting
- ☑ Scalability: Compatible with plant upgrades and phased deployments
- ☑ Significantly lowers overall disinfection-related chemical purchases

Peragreen® 26WW is ideal for plants navigating stricter effluent, nutrient, or sustainability requirements without requiring major infrastructure changes.

Comparing Disinfection Technologies

Choosing the best disinfection fit requires an honest look at the tradeoffs each method brings. The following summary highlights practical differences as plants assess current and future needs.

Feature	Chlorine/ Bleach	UV	15% PAA	Peragreen® 26WW (PAA)
Capital costs	Low to medium	Very high	Low	Low
Disinfection by-products	Yes	None	None	None
Energy costs	Low	Very high	Low	Low
Chemical residuals	Yes	None	Small	Small
Chemical purchases	High	Low	Medium	Low
Environmental impact	High	Low	Low	Low
Regulatory fit	Search for alternatives	Widely accepted	High	High

This comparison reveals why PAA is gaining favor as an advanced disinfection solution.

Independent studies confirm that PAA systems offer lower lifecycle costs and help streamline regulatory compliance compared to conventional bleach and UV setups.

Transitioning to Peragreen® 26WW

Upgrading to **Peragreen® 26WW** is simple and fast. Plants can expect a straightforward process and minimal operational disruption, and PAA is compatible with most existing feed equipment.

Efficient implementation steps include:

- ☑ Inline dosing via existing pipes and automated flow controls
- ☑ Effective microbial control across fluctuating influent, even as water quality shifts
- ☑ Limited process changes for operators; safety and handling training is less demanding than for bleach
- ☑ Real-time residual monitoring supports ongoing permit compliance

Successful transitions to PAA are cost-effective experiences that generate positive feedback from facilities and communities.

Unlike UV, PAA retrofits easily with bleach-based systems making it among the fastest, easiest, and cost-effective ways to modernize a plant's disinfection process and boost operational reliability.

Financial Impact

For municipalities, cost-effectiveness isn't just about purchase price—it's about reducing risk, maintenance, and ongoing operational expenses. Real facility data points to PAA as a strong choice for controlling rising expenses.

Technology	Capital Cost	Operating Cost Evaluation (NPV)*
UV	~$12M	~$17M
Bleach	Minimal	~$9M
PAA (15%)	Minimal	~$8M

* Based on Stantec/Idaho Falls and similar studies.

Major drivers of savings:

- ☑ Lower maintenance from reduced corrosion
- ☑ Fewer shutdowns and rushed repairs caused by compliance events
- ☑ Typical chemical costs 10–25% lower than bleach with **Peragreen® WW** and **Peragreen® 26WW** products depending on dechlorination requirements of sites using bleach

Use these findings to examine the value and cost of PAA conversion. Beyond NPV, reduced regulatory impact is also a key consideration.

Compliance and Safety

Disinfection solutions must perform within increasingly strict local, state, and federal limits. **Peragreen® 26WW** meets the latest performance and reporting requirements, while also providing operational peace of mind.

- ☑ No THMs, HAAs, or similar regulated byproducts in effluent
- ☑ No need for downstream neutralization
- ☑ Simple automated reporting for permit tracking
- ☑ Fewer storage and handling hazards for operators; less PPE required and lower incident risk

With fewer disruptions and streamlined reporting, plants operate more smoothly and maintain compliance with ease.

Adopting PAA helps facilities demonstrate commitment to both long-term regulatory readiness and day-to-day worker safety.

Facility and Community Perspectives

Facilities using **Peragreen® 26WW** are likely to require less process flow time and money spent on infrastructure upkeep, fewer compliance interruptions, and a stronger safety culture for staff. Communities downstream and environmental advocates respond positively to cleaner, more compliant water.

Understanding the basics of PAA for wastewater disinfection can shape future decision-making and help guide industry best practices.

> Switching to PAA brought relief to our maintenance and compliance teams. Downtime dropped, and inspections got easier."
>
> – Anonymous Customer, Wastewater Facility

Frequently Asked Questions

While every facility has unique needs, these are the most common questions operators and managers ask when considering **Peragreen® 26WW**:

Is Peragreen® 26WW compatible with our current bleach or UV setups?
Most facilities require only minor adjustments for installation.

Will Peragreen® 26WW make regulatory compliance easier?
Yes. There are no regulated DBPs or neutralization steps; routine monitoring is easy to automate and report.

How does handling and safety compare to bleach?
PAA has significantly fewer risk factors, streamlined storage, and simpler on-site procedures.

Does it perform against tough organisms?
Yes. Performance against Crypto, Giardia, bacteria, and viruses is validated in pilot studies and EPA-recognized utilities.

Are you ready to transition to a better alternative to bleach? Let's look at the next steps.

Transition Checklist

A structured approach ensures a smooth move to **Peragreen® 26WW**:

- ☑ System and site evaluation for PAA compatibility
- ☑ Consultation and project design with vendor and operator input
- ☑ Installation and calibration of dosing and residual monitoring equipment
- ☑ Brief and train all staff in updated system protocols and safety plans
- ☑ Validate water quality and compliance through ongoing data review

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Do you have more questions?

Contact Enviro Tech for free water analysis and more information about **Peragreen® 26WW**.

SCAN TO LEARN MORE

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