**Peracetic Acid (PAA)** is an organic peroxide compound with the formula CH₃CO₃H. It is environmentally friendly as it hydrolyzes to acetic acid and hydrogen peroxide in water. It is a broad-spectrum biocide with a fast reaction time (minutes rather than hours) and leaves no harmful by-products.

Peracetic acid is a strong oxidant and disinfectant with oxidation potential higher than that of chlorine or chlorine dioxide. PAA is available in the form of equilibrium mixture which also contains hydrogen peroxide, acetic acid (vinegar) and water as shown by the following equation:

\[
\text{CH}_3\text{CO}_2\text{H} + \text{H}_2\text{O}_2 \leftrightarrow \text{CH}_3\text{CO}_3\text{H} + \text{H}_2\text{O}
\]

**Acetic Acid + Hydrogen Peroxide \leftrightarrow Peracetic Acid + Water**

**Examples of Microbiological Control Applications**

**Sulfate Reducing Bacteria (SRB) Control**
Broad spectrum control for sulfate-reducing (SRB) and aerobic bacteria. Does not interfere with other frac fluid chemistries. Environmentally safe alternative to chlorine and glutaraldehyde.

**Frac Water Ponds**
PAA has been shown to significantly reduce or eliminate Sulfate Reducing Bacteria (SRB's) and their byproduct H2S, eliminating sulfide odor, increasing worker safety, and protecting oilfield assets.

**Wastewater Disinfection**
Replaces chlorine, sodium hypochlorite, and is as a low-capital alternative to UV, chlorine dioxide and ozone. The PAA treatment decomposes into biodegradable components and does not create chlorinated compounds or harmful disinfection by-products.

**Biofouling Control in Paper Machine White Water Circuits**
Prevents microbial contamination in the recirculation water and removes slime.
Peracetic Acid (PAA)  
Turn-key Equipment and Services

USP’s turn-key PAA programs provide the highest level of safety, performance and operational reliability. Our equipment systems include design, fabrication, installation and ongoing maintenance.

**Dosing Module:** USP skid-mounted dosing modules are custom pre-wired, pre-piped, passivated and shop tested. Power and communications panels are included.

**Peracetic Acid (PAA):** Available in totes and bulk, depending on the product grade and customer’s location, in concentrations including 5%, 12% and 15%.

**Chemical Management:** USP’s ChemWatch® advanced controller provides real time remote monitoring including dose rate verification, variance alarming, tank levels, leak detection and internet accessibility.

**Safety:** Safety shower, eyewash stations, and training for PAA and equipment orientation.

**Technical and Applications Services:**
- Maintenance of storage and dosing systems
- Preventative maintenance service visits
- PAA applications support

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USP Peroxide is the leading supplier of peroxygen-based technologies and services for environmental applications. We have been serving the water, wastewater and remediation markets for over 20 years and have offices and field service locations throughout North America.

Our consultative approach to problem solving includes application assessment, technology selection (which may include lab scale testing, if necessary) and development of a tailored treatment approach.

Our full service programs successfully integrate storage and dosing equipment systems, chemical supply, inventory and logistics management, and ongoing field and technical support. This approach provides cost-effective, “hands-off” solutions to our customers.

**Getting Started**

We look forward to supporting your treatment needs, whatever the scale of your requirements. To obtain a streamlined treatment solution tailored to your specific project, just give us a call: **(877) 346-4262**.

USP’s Peracetic Acid Bulk Equipment and Safety Station

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