SAMPLING SOLUTIONS

For Peracetic Acid

Recognition

Peroxyacetic or peracetic acid (PAA) is produced from the reaction between hydrogen peroxide and acetic acid. PAA is an effective disinfectant and decomposes rapidly, leaving no harmful residues. These qualities make it ideal for use in many industries such as food and beverage, health care, water treatment, pulp and paper bleaching, and agriculture. As a result, the use of PAA is increasing rapidly. PAA is corrosive and can irritate the eyes, skin, and respiratory tract of people exposed in the workplace. Inhaling PAA can cause coughing, shortness of breath, and pulmonary edema.

The global industrial hygiene community has been united in addressing the hazards of PAA. Although no OSHA PEL is in place for PAA, other guidelines and limits have been established:

- EPA has issued Acute Exposure Guideline Levels (AEGLs) representative of threshold exposure limits for the general public that are applicable to emergency exposure periods from 10 minutes to 8 hours.
- ACGIH® has issued a Threshold Limit Value (TLV®) as a 15-minute STEL of 0.4 ppm.
- NIOSH has approved an Immediately Dangerous to Life and Health (IDLH) limit of 0.6 ppm based on a 30-minute exposure.

Because the chemical properties of PAA are similar to hydrogen peroxide and it is sold in solution with hydrogen peroxide, sampling PAA in the workplace can be difficult. In 2004, the French agency, Institut national de la recherche scientifique (INRS), published a method for sampling PAA and hydrogen peroxide simultaneously. Although such a U.S. agency method is not available at this time, OSHA recently published a method for sampling hydrogen peroxide and is currently working on a method for sampling PAA.

SKC offers sampling media that meet the specifications of the INRS method and has worked with laboratory partners to verify critical details. This active sampling method requires an air sample pump to collect hazardous gases and vapors in air.

See the SKC equipment recommended for sampling PAA.

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Evaluation with SKC Sampling Solutions

For over 60 years, SKC has led the research, design, and manufacture of quality sampling equipment and media to aid health and safety professionals in the evaluation of occupational and environmental hazards.

SKC's sampling solution for PAA evaluation includes an air sample pump, coated filters, and a sorbent tube.

See below for specific method and sampling equipment/media information.

Sample Collection

Active Air Sampling Solutions

Note: When using a sorbent tube with an AirChek Touch Series pump, a low flow tube holder is required.

Target Compound	Select Methods*	SKC Sample Collection Media and Cat. No.	SKC Sample Pump and Cat. No.	Notes
Peroxyacetic acid, peracetic acid (PAA)	Non-agency 57 (INRS)	Two coated filters preloaded in filter cassette 225-9030 and one sorbent tube 226-193-UC or 226-199-UC	AirChek TOUCH, Essential, Essential+, Connect or AirChek XR5000 210-5001	For simultaneous collection of hydrogen peroxide and PAA: 225-9030 acts as pre-filter for collecting hydrogen peroxide and the sorbent tube is for collecting PAA. If concerned about breakthrough, choose the 2-section sorbent tube 226-199-UC.

* Other methods may apply. SKC recommends those listed here.

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