

Jet-Oxide 5% and 15% FAQs

Q. What is peroxyacetic or peracetic acid (PAA)?

A. Peroxyacetic acid, also called peracetic acid (C₂H₄O₃), is a mixture of acetic acid (CH₃COOH) and hydrogen peroxide (H₂O₂) in a watery solution. It is a bright, colorless liquid that has a piercing odor and a low pH value (2,8). Peracetic acid is produced by a reaction between hydrogen peroxide and acetic acid:

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CH₃-C-OH + H₂O₂ -> CH₃-C-O-OH + H₂O

acetic acid + hydrogen peroxide -> peracetic acid

It can also be produced by oxidation of acetaldehyde and is usually produced in concentrations of 5-15%. When peracetic acid dissolves in water, it disintegrates to hydrogen peroxide and acetic acid, which will fall apart to water, oxygen and carbon dioxide. Peracetic acid degradation products are non-toxic and can easily dissolve in water. It is a very powerful oxidant; the oxidation potential outranges that of chlorine and chlorine dioxide.

Q. What is the shelf life?

A. Jet-Oxide can be stored without much change in active ingredients for nearly two years at 86°F. The product has a guaranteed shelf life of one year. Once diluted, the diluted solution must be used within 24 hours.

Q. What is the difference between 5% PAA and 15% PAA?

A. Jet-Oxide is available in two different strengths. The label usages are the same, but the dilutions factors are different. The final use product will be the same. You should purchase the 15% PAA when you are using high quantities of PAA. Use the lower strength if the product is not going to be used in under one year.

Q. How does PAA kill microorganisms?

A. A particular feature of Jet-Oxide is its broad spectrum of anti-microbial (bactericidal, fungicidal, sporicidal and viricidal) effects. Its excellent disinfecting efficacy is already obtained at relatively low temperatures (<10 °C). The effectiveness and efficiency of disinfecting with Jet-Oxide can be attributed to its specific diffusion properties through cellular membranes. As a result of its high oxidation potential, it causes an irreversible breakdown in the enzyme system in the cell, which kills off microorganisms.

Q. What is the maximum temperature to apply and store PAA?

A. To maintain product quality, store at temperatures below 86°F. To store, never return Jet-Oxide to its original container after it has been removed. Avoid all contaminants, especially dirt, caustic, reducing agents and metals. Contamination and impurities will reduce shelf life and can induce decomposition. In case of decomposition, isolate container, douse container with cool water and dilute Jet-Oxide with large volumes of water. Avoid damage to containers, keep out of direct sunlight and keep them closed at all times when not in use.

Q. What are the safety rules associated with PAA?

A. Avoid skin contact and wear acid-resistant, butyl rubber or neoprene gloves at all times. Avoid eye contact and wear eye protection, such as chemical goggles and face shield if splashing is possible. Do not inhale product vapors. Provide good ventilation of storage area and use a respirator when handling concentrated peracetic acid. Wear chemical-resistant clothing (e.g. acid suit) and boots, and always check clothing for signs of brittleness.

Q. Is there specific equipment used to apply PAA?

A. Never use brass, copper, iron, or galvanized metal of any kind that will contact even the most dilute solution of PAA. When using Jet-Oxide use the proper tubing, pumps, plastic fittings and piping for PAA. Teflon diaphragms and parts are best for PAA uses. Contact JET Harvest Solutions for more information (link to contact page).

Q. Once mixed, how long before I should use up the diluted PAA?

A. Use PAA within 24 hours.

Q. Can I fog PAA?

A. You should use our Jet-Ag product for fogging needs.

Q. What is the maximum ppm of PAA allowed on fruits and vegetables?

A. The maximum application of PAA on fruit and vegetables is 100 ppm. This solution can be applied as many times as needed.

Q. What are the PAA rules for citrus canker?

A. Jet-Oxide 5% can be used to control the spread of citrus canker between inanimate surfaces and inanimate surfaces to plants. This product is not for treatment of infected plants.

Packinghouse Sanitization

Jet-Oxide 5% is an effective sanitizer against microorganisms, such as *Xanthomonas campestris* (axonopodis) pathovars citrumeto (citrus canker surrogate) and *Staphylococcus aureus* and *Escherichia coli*.

1. Remove gross contamination with a cleaner or other suitable detergent and rinse with potable water.
2. Use Jet-Oxide 5% at a dilution of 17.4 fl. oz. per 50 gallons of water (149 ppm peroxyacetic acid) as a general sanitizing coarse spray to reduce bacterial and fungi contamination of walls, floors, conveyors and harvesting containers.
3. Allow sanitizer to contact surface for at least one (1) minute.
4. Allow to air dry, do not rinse.

Field Equipment Sanitization

Jet-Oxide 5% may be used to sanitize harvest equipment such as pickers, trailers, trucks (including truck body parts and tires), bins, packing crates, ladders, power tools, gloves, rubber boots, pruning shears or other equipment that may transfer *Xanthomonas campestris* (axonopodis) pathovars citrumelo (citrus canker surrogate). This product can also be used to sanitize surfaces contaminated with *Staphylococcus aureus* and *Escherichia coli*.

1. Before sanitization, move the field equipment in an area with an impervious surface and with controlled drainage. Ensure that no sanitization solution will be released to the environment.
2. Remove gross contamination with a cleaner or other suitable detergent and rinse with water.
3. Use Jet-Oxide 5% as a dilution of 17.4 fl. oz. per 50 gallons of water (149 ppm peroxyacetic acid) as a general sanitizing coarse spray.

4. Allow sanitizer to contact surface for at least one (1) minute.
5. Allow to air dry, do not rinse.

Q. How can I measure the PAA solutions once diluted?

A. To measure Jet-Oxide use LaMotte test strips, Code 3000. You may also use a LaMotte Peracetic acid test kit, Code 7191-01.

Q. What size containers of PAA are purchased?

Jet-Oxide 5% can be purchased in 5-gallon jerrycans, 30-gallon drums, 55-gallon drums and 265 gallon totes. Jet-Oxide 15% can be purchased in 5-gallon jerrycans, 30-gallon drums, 55-gallon drums, 265 gallon totes and 330 gallon totes. Please contact us if totes are needed.

Q. Is PAA better than chlorine for sanitization?

A. Jet-Oxide has many more advantages over Chlorine (sodium hypochlorite). Jet-Oxide is easier to use because there is no mixing for ph control. When PAA breaks down all the compounds are environmentally friendly. Chlorine has many carcinogenic formations upon breakdown and is not environmentally as safe. PAA is not corrosive to stainless steel, aluminum and alloys. PAA aids in reducing or not aiding mineral scale formation. PAA efficacy increases in hot water, is an effective bio-film remover and can degrade to carbon, oxygen and water.

Q. How corrosive is PAA to metals?

A. Never use brass, copper, iron, or galvanized metal of any kind that will contact even the most dilute solution of PAA.