



## *Arizona Farm Bureau Federation*

325 S. Higley Rd, Suite 210  
Gilbert, AZ 85296

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Submitted electronically via [www.regulations.gov](http://www.regulations.gov)

RE: Docket No. EPA-HQ-OPP-2009-0546; Draft Human Health and/or Ecological Risk Assessments for Peroxy Compounds

To Whom It May Concern:

The Arizona Farm Bureau Federation represents farmers and ranchers from across Arizona. Our members produce an array of crops and livestock that contribute over \$23.3 billion of economic impact to the state. Our comments below address the Environmental Protection Agency's (EPA) Draft Human Health and/or Ecological Risk Assessments for biopesticide uses of the Peroxy Compounds, as these compounds play an important role in Arizona crop production. Our comments specifically address the following peroxy compounds: hydrogen peroxide (HPO) and peracetic acid (PAA)

There are several different uses of peroxy products in Arizona. Our comments specifically address their use as a fungicide, agricultural water treatment, and sanitizing/cleaning irrigation equipment and systems. Nearly all of these products include both HPO and PAA.

### Fungicide Use

Pest control advisors (PCA) who work with farmers to address pest and disease issues report that HPO+PPA products have been used as a fungicide in organic produce production for 20-plus years. Although the efficacy of the product is reported as weak by some users, its continued availability is important as it is used as a rotational product to control downy mildew, and because fungi evolve so quickly, it is critical for resistance management. HPO+PPA products' mode of action is through oxidation, where resistance is highly improbable, and thus these products are an essential tool for integrated pest management programs.

Although efficacy as a fungicide may be low, HPO+PPA products are noted for their effectiveness in addressing bacterial pathogens. This is important as there are often fewer alternatives to turn to in organic production than there are in conventional production. Thus, retaining the use of these products at use rates that are effective is significant.

### Agricultural Water Treatment Use

Another important use for peroxy compounds is to treat agricultural water, in particular for produce production, to address food safety guidelines and compliance. The Arizona Leafy Greens Marketing Agreement (LGMA) requires produce growers to adhere to specified standards with regard to water quality. Based on location and availability, growers have access to either Type A water or Type B water. Type A water "is ag water that is unlikely to contain indicators of fecal contamination either due to

natural hydrogeological filtration or through controlled USEPA and state regulated treatment” (i.e., municipal water or closed delivery systems from a private water supplier or on-farm well).<sup>1</sup> Type B water is “all other ag water systems including surface water sources and open conveyance systems.”<sup>2</sup>

As per LGMA guidelines, overhead chemical application utilized prior to or within 21-days of scheduled harvest must be Type A water. This requirement also applies to overhead irrigation. In addition to LGMA guidelines, some growers are required through the shippers they work with to treat all Type B water to ensure Type A water is used for all post-germination overhead water applications. If a grower only has access to Type B water, it must be treated to qualify as Type A water before it is applied to crops. The application of peroxy compounds, specifically products that include both HPO and PPA (HPO+PPA), is one way to treat Type B water so that it qualifies as Type A. In Arizona, the peroxy compound formulations used for water treatment include OxiDate 5.0, and Sanidate (WTO, 12.0, and 15.0); all are Biosafe Systems products with various concentrations of HPO+PPA. The products’ labels include either “Treatment of Water Used for Pesticide Spray Solutions” as a bactericide/microbiocide to treat and suppress algae, bacteria, and fungi in water collected from open or closed sources or “Treatment of Agricultural Irrigation Water Used for Fruit and Vegetable Crops” to suppress/control algae, non-public health bacteria, fungi and fungi like organisms.

In overhead chemical applications, HPO+PPA products are first added to the water, mixed, and allowed to sit before the pesticide is added. According to several Pest Control Advisors (PCAs) responsible for these applications, the use rate for OxiDate 5.0 is 5.1 oz/100 gallons of water; this is a lower rate than what is used for fungicide treatment. For fungicide treatments or applications to control bacterial diseases, the maximum label rate is used.

An alternative to HPO+PPA products for water treatment is chlorine. However, chlorine can burn plants leading to crop damage, while HPO+PPA products do not have this same effect. Additionally, Arizona’s 1080 form for pesticide application records only allows for the documentation of EPA-labeled products, and because HPO+PPA products like Oxidate are labeled for water treatment, they can be included on the 1080 form where chlorine cannot. This is important for growers as a way to maintain records of water treatment for chemical applications, as required under LGMA. Consequently, HPO+PPA products are preferred over chlorine for water treatment purposes.

#### Sanitizing/Cleaning Irrigation Equipment

There are different reported products of HPO and HPO+PPA used to clean and/or sanitize irrigation systems and equipment, in particular drip irrigation systems. Sanidate WTO (HPO+PPA) is labeled for irrigation cleaning and disinfection and is used in some areas of the state to clean and disinfect drip tape and some larger sprinkler systems. There is also reported use of Oxidate 5.0, as it is labeled for “Hard, Non-Porous Surfaces, Equipment and Structures.”

Another product with reported use to control algae in drip irrigation tape is HPO at a 50% solution (i.e., HP50 manufactured by Fertizona). Chlorine is an alternative to HPO, but not preferred as its efficacy is inconsistent and, as noted previously, can lead to crop damage. Depending on the algae problem, applications may be made periodically as a shock treatment (about 250ppm hydrogen peroxide), or if

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<sup>1</sup> Western Growers. Appendix A: Ag Water System Assessments and Remediation Guidelines. December 12, 2019. Available online at: [https://lgma-assets.sfo2.digitaloceanspaces.com/downloads/Appendix\\_A.pdf](https://lgma-assets.sfo2.digitaloceanspaces.com/downloads/Appendix_A.pdf).

<sup>2</sup> Ibid

there is the risk of constant algae exposure, a constant rate injection at a much lower application rate (about 5ppm) may be used.

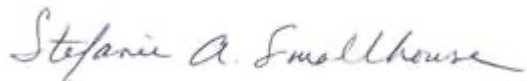
#### EPA's Risk Assessment

EPA's risk assessment for peroxy compounds indicates potential occupational handler inhalation risk of concern for products containing both PAA and hydrogen peroxide for certain aquatic and non-aquatic scenarios and that those risks could be mitigated by requiring a PF10 respirator, lowering application rates, or restricting the application methods on product labels. The requirement of a PF10 respirator should not be problematic for growers to include as a PPE requirement for those scenarios where the level of concern (LOC) is exceeded. However, additional details will be needed to determine if any proposed rate reductions or application method restrictions would impact the use of products containing both PAA and HPO by Arizona growers described in our comments. But given the lower rates used for water treatment, we are hopeful these lower rates will be well within the safety margins for workers in combination with the proposed new PPE requirements where necessary. Conversely, application rates for fungicide treatment and to address bacterial plant pathogens are higher in organic crop production. But retaining PPA+HPO products is critical for organic production where fewer alternatives are available when compared to conventional production.

With regards to HPO only products, EPA's mitigation measures to address risks to occupational handler inhalation risks are similar to those for HPO+PPA products. With respect to requiring PF10 respirators, their use, if necessary, should be limited to those handling the concentrated product and not those who only handle or apply diluted solutions. EPA also indicates that lowering application rates or restricting application methods may be needed to mitigate risks to occupational handlers. As noted above, additional details will be needed to determine if any proposed rate reductions or application method restrictions would impact the use of products containing only HPO by Arizona growers described in our comments. However, limiting the use of HPO products through rate reduction or use limitation would be a concern, since using chlorine as an alternative has its drawback as noted earlier.

In addition to our comments, we support the more technical comments submitted by the Arizona Pest Management Center. We encourage EPA to consider our comments and the unique and significantly important uses of peroxy compounds in Arizona as it moves forward with this pesticide registration review.

Sincerely,

A handwritten signature in cursive script that reads "Stefanie A. Smallhouse".

Stefanie Smallhouse, President  
Arizona Farm Bureau Federation