

**Water Soluble Packaging (WSP):**

**MIXER/LOADER EXPOSURES**

**Best practices and Labeling Changes**

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The Agricultural Handlers Exposure Task Force (AHETF) discovered some improper practices that caused unnecessary exposure to mixer/loaders using Water Soluble Packaging (WSP). The AHETF reported their findings and presented the EPA with a list of best management practices to help minimize exposure caused by these improper practices. **Currently, EPA is planning to initiate the revision of all WSP product labels for products use in mix tank.** Mixing instructions reflect proposed label language.



Figure 1: Water Soluble Packaging.  
<http://www.greenpack.fr/an/prestation.htm>

**WHY USE PRODUCTS IN WSP?**

- Proper use of WSP can significantly reduce pesticide exposure to handlers.
- When used properly, WSP is considered a closed system under the Agricultural Worker Protection Standard [40 CFR 170.607(d)].

**IMPROPER USE PRACTICES**

**These practices can sometimes cause exposure:**

- Placing WSP in Mixing Tank Basket (Figure 2)
- Spraying water on WSP in basket
- Breaking WSP in mix tank
- Adding WSP after loading fertilizer or other pesticide(s)
- Using damaged WSP

**HANDLING INSTRUCTIONS**

- Mix in spray tank only.
- Handle WSP(s) in a manner that protects the package from breakage and/or unintended release of contents. If package is broken, put on PPE required for clean-up and then continue with mixing instructions.
- Keep the WSP(s) in outer packaging until just before use.
- Keep the WSP **dry** prior to adding to the spray tank.
- Handle with **dry gloves** and according to the label instructions for PPE.
- Keep WSP intact. Do not cut or puncture WSP.
- Reseal the WSP outer packaging to protect any unused WSP(s).

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**MIXING INSTRUCTIONS**

1. If a basket or strainer is present in the tank hatch, remove prior to adding the WSP to the tank.
2. Fill tank with water to approximately one-third to one-half of the desired final volume of spray.
3. Stop adding water and stop any agitation.
4. Place intact/unopened WSP(s) into the tank.
5. Do not spray water from a hose or fill pipe to break or dissolve the WSP(s).
6. Start mechanical and recirculation agitation from the bottom of tank without using any overhead recirculation, if possible. If overhead recirculation cannot be turned off, close the hatch before starting agitation.
7. Dissolving the WSP(s) may take up to 5 minutes or longer, depending on water temperature, water hardness and intensity of agitation.
8. Stop agitation before tank lid is opened.
9. Open the lid to the tank, exercising caution to avoid contact with dusts or spray mix, to verify that the WSPs have fully dissolved and the contents have been thoroughly mixed into the solution.
10. Do not add other allowed products or complete filling the tank until the bags have fully dissolved and pesticide is thoroughly mixed.
11. Once the WSP have fully dissolved and any other products have been added to the tank, resume filling the tank with water to the desired level, close the tank lid, and resume agitation.
12. Use the spray solution when mixing is complete.
13. Maintain agitation of the diluted pesticide mix during transport and application.
14. It is unlawful to use any registered pesticide, including WSPs, in a manner inconsistent with its label.



Figure 2: Mixing tank basket

**Additional Resources:**

For more information on the Agricultural Handlers Exposure Task Force, see <http://www.exposuretf.com/>  
For more information on Worker Protection Standards (including Closed System Specifics), see <http://www2.epa.gov/pesticide-worker-safety>  
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