

Closed Systems for Transferring Paraquat

Patsy Laird
The Pesticide Stewardship Alliance Annual Meeting
February 2020



syngenta

Existing-Stocks Provision

- **12 months from the label stamped date**, registrants will be prohibited from selling or distributing paraquat products not complying with the closed-system requirement.
- Persons **other than the registrant** may continue to sell and/or use **existing stocks** of paraquat products with the previously approved labeling **until such stocks are exhausted**, provided that such use is consistent with the terms of the previously approved labeling.
- Syngenta's Gramoxone SL 3.0 product was approved by EPA in October, 2019. As a new product, it's not subject to the existing-stocks provision.

Source: Paraquat Dichloride Human Health Mitigation Decision, December 15, 2016
(Amended January 12, 2017): EPA-HQ-OPP-2011-0855-0115

Syngenta's bulk Gramoxone[®] product line meets EPA's criteria for closed systems.

Syngenta's Closed System: SecuraLink™

- **Note:** Personal Protective Equipment (PPE) requirements will not be reduced but will stay the same.
- Closed-system cap installed on each 2.5-gallon container
 - Cannot be removed or opened by hand
 - Dispensing rate is approximately 15-20 seconds to empty
 - Dispensing rate is controllable
 - Container is graduated to aid in mixing
 - Container can be rinsed immediately after dispensing through the closed system
- Dispensing from container requires an adaptor mounted to an eductor tank or spray tank

Closed-system Components*

TANK ADAPTOR

- Mounted to mix bowl, spray tank lid, etc.
- Threaded connection to water source for container rinsing (backflow prevented)



2.5-GALLON CONTAINER CAP

- Insert cap into adaptor, ¼ turn is full flow
- Flow controlled by turning < ¼ turn



*This same design was successfully used with Curacron® insecticide (profenofos). New fitting has been modified to improve flow rate.

Closed-system Components



2.5 Gallon Containers



Water supply line for rinsing requirements

Using the Closed System



- Cap is inserted into adaptor.
- 2.5 gallons is dispensed in 15-20 seconds at full flow.
- Control the flow rate with how far the container is turned.
- Jug has graduated markings to facilitate measuring.

Closed-system Container Handling: Pressure-rinsing

- Pressure-rinse container promptly after emptying.
- Empty the remaining contents into application equipment or a mix tank using the closed-transfer system.
- While maintaining the closed-system connection of the container to the application equipment or mix tank, activate the pressure-rinsing system on the closed system and rinse at about 40 PSI for at least 45 seconds.



- Once pressure-rinse has been stopped, allow container to drain for an additional 30 seconds into the application equipment or mix tank.

Closed-system Container Handling: Recycling

- Prior to offering for recycling, *but only after the container has been emptied and pressure-rinsed*, the closed-system valve must be removed from the product container.
- Do not remove this valve until the product container has been rinsed and drained as described.
- To remove the closed-system valve, use a mechanical device such as a strap wrench or adjustable pliers to turn the valve counter clockwise until the locking mechanism is released.
- The closed-system valve is removed from the product container by unscrewing the valve in a counter-clockwise direction until free from the product container.
- *The closed-system valve is not recyclable and should be discarded.*

Closed-System Tank-Mix Compatibility

- Closed-system and handling requirements prevent jar-testing for compatibility.
- To provide guidance to applicators, Syngenta has conducted compatibility testing and will continue to expand the list of products evaluated.
- Compatibility information will be provided on Syngenta website as an extension of the label.
- Product users should consult the website for specific information regarding mixing instructions and tank-mix-compatible products.

Approved Tank-Mix Partners for Gramoxone SL 3.0*

<http://www.syngenta-us.com/p/gramoxone-sl-3.0-tank-mixes/index.html>

- The information provided is meant to be a guide for successful tank-mixing with Gramoxone® SL 3.0 herbicide.
- Products listed have demonstrated compatibility when mixed with Gramoxone SL 3.0 under laboratory conditions. Results from field tank-mixes may vary due to water quality, fertilizer quality, order of addition of tank-mix partners, and other variables.
- *Gramoxone SL 3.0 may be tank-mixed with products not listed, so long as successful tank-mix experience with previous Gramoxone® brands has been demonstrated.*