Closed Systems and the 2016 Paraquat Dichloride Human Health Mitigation

THE PESTICIDE STEWARDSHIP ALLIANCE CONFERENCE

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Use Restrictions and Oral Toxicity Concerns

Classified as restricted use due to high toxicity

An estimated 1.5 teaspoon can be lethal and there is no antidote

- In the late 80's "safening" agents were added
- 1997 RED noted that the safening agents had been associated with a decline in the number of incidents

Nature of Incidents

Fatalities

- 21 accidental deaths associated with the use of paraquat between 2000-2018
- Most fatalities (18) are the result of accidental ingestion of paraquat from a beverage container

Occupational Incidents

- In IDS, SENSOR, and CDPR/PISP, most paraquat incidents are occupational-related
  - Exposure commonly occurred as a result of:
    - Failure to wear adequate PPE
    - Leaks from application equipment or pesticide spills
    - Being directly sprayed with paraquat

2016 Human Health Mitigation Decision

“Phase 2” Labels (stamped/approved Aug and Nov 2018)

- Emphasize paraquat toxicity
- Restrict mixing, loading, and application of paraquat products to **certified applicators only**
- Require users to complete **specialized paraquat training** (https://www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators)

“Phase 3” Labels (stamped/approved Dec 2019)

- Restrict all non-bulk products to sale/distribution/use in closed systems
- Prohibit jar testing
- Describe options for container disposal, specific to closed system type

Which Paraquat Label Version?

- All products affixed with labels between Nov 14 2018 and Dec 30, 2019 must bear the “Phase 2” labels, which include:
  - New toxicity warnings
  - Restriction to certified applicators only
  - Paraquat training requirement
- All products affixed with labels after Dec 30, 2019 must bear the “Phase 3” labels (stamped Dec 30, 2019)
  - Require closed systems, prohibit jar testing, in addition to the Phase 2 requirements listed above
- EPA is allowing existing stocks of paraquat, including products stickered with older labeling, to be depleted until exhaustion

Paraquat FAQ's

- Who can use (mix, load, apply) paraquat?
  - Must be a certified applicator
  - Must have taken the paraquat training
- What is the paraquat training?
  - Paraquat-specific training that emphasizes the importance of handling paraquat safely because of its extreme toxicity.
  - Highlights product-specific restrictions, including that paraquat products bearing the new labeling can be handled by certified applicators only.
- Additional FAQs:
  - https://www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators

Paraquat Closed System: Purpose

- Purpose of requirement is to prevent users from illegally decanting into beverage containers, thereby hopefully preventing future accidental ingestion deaths
- Also expected to decrease the number/severity of dermal occupational incidents

Paraquat Closed System: Requirements

- Engineered so paraquat can only be removed from the container using closed system technology
  1. Closed system must be the only feasible way to remove paraquat from the container without destroying the container
     - A screw/child-resistant cap for the pourable closure on a typical pesticide container is not sufficient
  2. Closed system must remove the paraquat from its original container and transfer the paraquat to the application equipment through connecting hoses, pipes and couplings that are sufficiently tight to prevent exposure of the mixer or loader to the paraquat (except for the negligible escape associated with normal operation of the system).

Questions?