

Closed Mixing Systems

Agricultural Commissioner's Office
Santa Cruz County

Closed Mixing Systems – Closed mixing systems are engineering controls used to protect workers from dermal hazard when mixing pesticides with high acute dermal toxicity. The dermal toxicity of a pesticide is determined by the *precautionary statements* on the label. (CCR 6746)

Precautionary Statements – Precautionary statements on the pesticide label determine the type of closed mixing system that must be used...

- “**Fatal if absorbed through skin**” or other comparable language on the pesticide label (including adjuvants) requires a “Tier 1” closed mixing system to be used.

A “**Tier 1**” closed mixing system is capable of enclosing the pesticide while removing the contents from its original container, preventing the pesticide from contacting handlers, rinsing and draining the container, and transferring the pesticide and rinsate to the mix or spray tank all while the container is still connected to the closed mixing system.

- “**May be fatal if absorbed through skin**” or “**Corrosive, causes skin damage**” or other comparable language on the pesticide label (excluding adjuvants) requires a “Tier 2” closed mixing system to be used.

A “**Tier 2**” closed mixing system is capable of enclosing the pesticide while removing the contents from its original container, preventing the pesticide from contacting handlers, and transferring the pesticide to the mix or spray tank.

Closed Mixing System Design – Any closed mixing system must be designed to remove a pesticide from its original container and transfer the pesticide product through connecting hoses, pipes and couplings that are sufficiently tight to prevent exposure of any employee to the pesticide concentrate or, when rinsing is required, the rinsate.

Closed Mixing System Requirements – Closed mixing system requirements apply to mixing liquid formulations of pesticides for the production of an agricultural commodity. The employer shall assure employees use an appropriate closed mixing system as specified and required by regulation or pesticide product labeling. (CCR 6746(a))

Employee Handler Training – Employees must be trained to use a closed mixing system in accordance with its written operating instructions. Written operating instructions must be available with the closed mixing system at the worksite.

Personal Protective Equipment (PPE) – All PPE required by pesticide label, regulation or restricted material permit conditions must be available for use at the worksite. Protective eyewear must be worn while operating a closed mixing system. While using a closed mixing system, PPE requirements may be reduced or modified as provided in CCR 6738.4

(continued on reverse)

Closed Mixing Systems (continued)

Closed Mixing System Exemptions – Closed mixing system regulations do not apply to...

- Mixing pesticides using a method or mixing device required by the pesticide label and the failure to follow the label directions would result in the use of a pesticide in conflict with labeling (FAC 12973)
- Opening of a container by removal of the manufacture's original sealing device without removing any of the contents before re-closing with a liquid-tight sealing device.
- The rinsing of refillable pesticide containers that are required to be returned to a pesticide dealer, pesticide registrant or manufacturer
- An employee required to use a Tier 2 closed mixing system if the employee handles a daily maximum of one gallon. The employee shall wear all PPE required by pesticide product labeling and regulation when not using the closed mixing system.

Vendors of Closed Mixing Systems – The following companies have submitted documentation to the Department of Pesticide Regulation (DPR) stating their closed mixing system, or component thereof, complies with Closed Mixing System Criteria set forth in the California Code of Regulations. DPR does not endorse or recommend any particular closed mixing system or company. DPR does not certify or otherwise license any closed mixing system. Companies not appearing on this list may have systems that comply with regulations, but have not submitted documentation to DPR. Closed mixing system users should be aware that they are responsible for system compliance under operational conditions.

Company	Address	City	State	Phone
BatchBoy by Pump Systems	530 25 th Avenue East	Dickinson	ND	(800)437-8076
Big W Sales	1040 Charter Way	Stockton	CA	(800)922-7253
Goat Throat	60 Shell Avenue	Milford	CT	(646)486-3636
Greenleaf Technologies	230 E Gibson St.	Covington	LA	(800)881-4832
Micro Matic	2386 Simon Court	Brooksville	FL	(866)755-4477
PBM Sprayers	324 Meyers Street	Chico	CA	(530)345-1334
Pentair Flow Technologies	375 Fifth Avenue, N.W.	New Brighton	MN	(800)424-9776