Changes in Closed System Regulations

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Based on presentation by:
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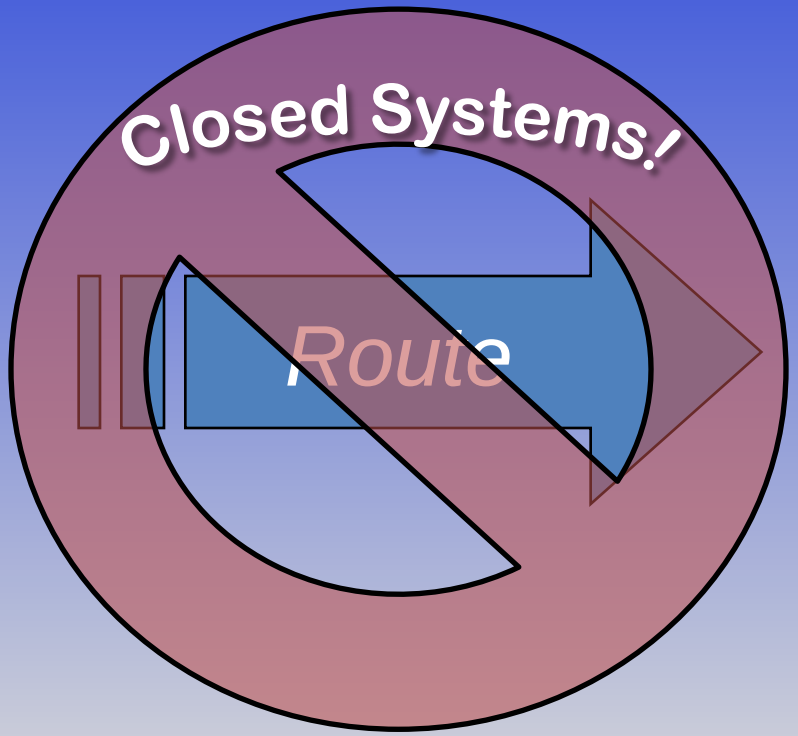
Industrial Hygiene Services

Background

- Technological changes in closed systems
- OPs and CHCs no longer registered or manufactured in United States
- Less systemic, but corrosive to eyes and skin

Chemical Hazards:
Components of Exposure

Source



Receiver

Components of Exposure
Routes (Pathways)

Direct Exposure

◦ Splash ◦ Spray ◦ Spill ◦

Indirect Exposure

◦ Residue ◦ Drift ◦ Off-gassing

Components of Exposure

Sources

- Undiluted Pesticide
- Application Dilution
- Foliar Residue
- Off Target Residue
- Drift
- Degradation Products

Engineering Control of Exposure

- Closed systems = *Engineering control*
  - Built into design
- Isolate and limit exposure
- Reduce risk to personnel
- Best way to control *if <u>maintained</u> properly*

Hazard Recognition

Label Information: Signal Words - OLD

Category I: DANGER / POISON

Category II: WARNING

Category III: Caution

Any liquid or liquefiable Category I material had to be mix/loaded through a closed system.

Hazard Recognition

Label Information:

Precautionary Statement

- **Now** (as of January 1, 2016), under Section 6746, use the **<u>Precautionary Statements</u>** section of the label.

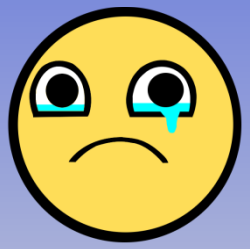
Closed Mixing System Requirements
Tier Identifiers

Precautionary Statement

Tier I ***Tier II***

Closed Mixing System Requirements
Section 6746 (b)(c)

How do you determine its ***"Tier"*** designation?!



Don't "tier" up!

Closed Systems

Tier I

"Fatal if absorbed through skin" or comparable language

Tier II

"May be fatal if absorbed through skin" or "Corrosive, causes skin damage*" or comparable language

NOTE: if corrosive to skin, very likely corrosive to eyes!

Closed Systems

- Corrosive: Substance that has power to cause *irreversible damage* or destroy another substance by ***contact***.

Closed Systems

Tier I

- Classically poisonous materials
  - Skin or eye damaging properties.
- Systemic poisoning can occur from skin contact/inhalation.

Tier II

- Corrosive to skin and/or eyes
- *Possible* irreversible damage
- May also have systemic toxicity

Closed Systems – Tier Differences

Tier I

- Remove pesticide from container
- Rinse container and extract rinsate *without removal* from the extraction system
- Classic closed system

Tier II

- Remove pesticide from container
- Container rinsing and subsequent rinsate removal *may be done otherwise*
- Can do hand pour

Closed Mixing System Requirements
Section 6746 (a)(b)(c)

- Use of “appropriate closed system”
- Capable “of enclosing the pesticide while removing the contents from its original container, preventing the pesticide from contacting handlers”

Closed Mixing System Requirements
Section 6746 (d)(e)

- Users must trained in the specific use of the closed system and in the requirements of ***Title 3 CCR Section 6724: Handler Training***

- All PPE required by label, restricted material permit, or regulation ***must be at the worksite***.

- PPE required to be worn will be dependent on closed system exemptions provided in ***Title 3 CCR Section 6738: Personal Protective Equipment***
  - **[1] DANGER and WARNING: protective eyewear, coveralls, chemical-resistant gloves and chemical-resistant apron**
  - **[2] CAUTION: protective eyewear and work clothing**

Closed Mixing System Requirements
Section 6746 (e)

Protective eyewear <u>must always</u> be worn when using a closed system.

Closed Mixing System Requirements
Section 6746 (f)

Tier I: Must incorporate pre-disconnection rinsing of the container.

Tier II: can have a separate rinsing system *or* may also incorporate pre-disconnection rinsing of the container.

Closed Mixing System Requirements
Section 6746 (g)

Written, LEGIBLE, operating instruction must accompany the system.

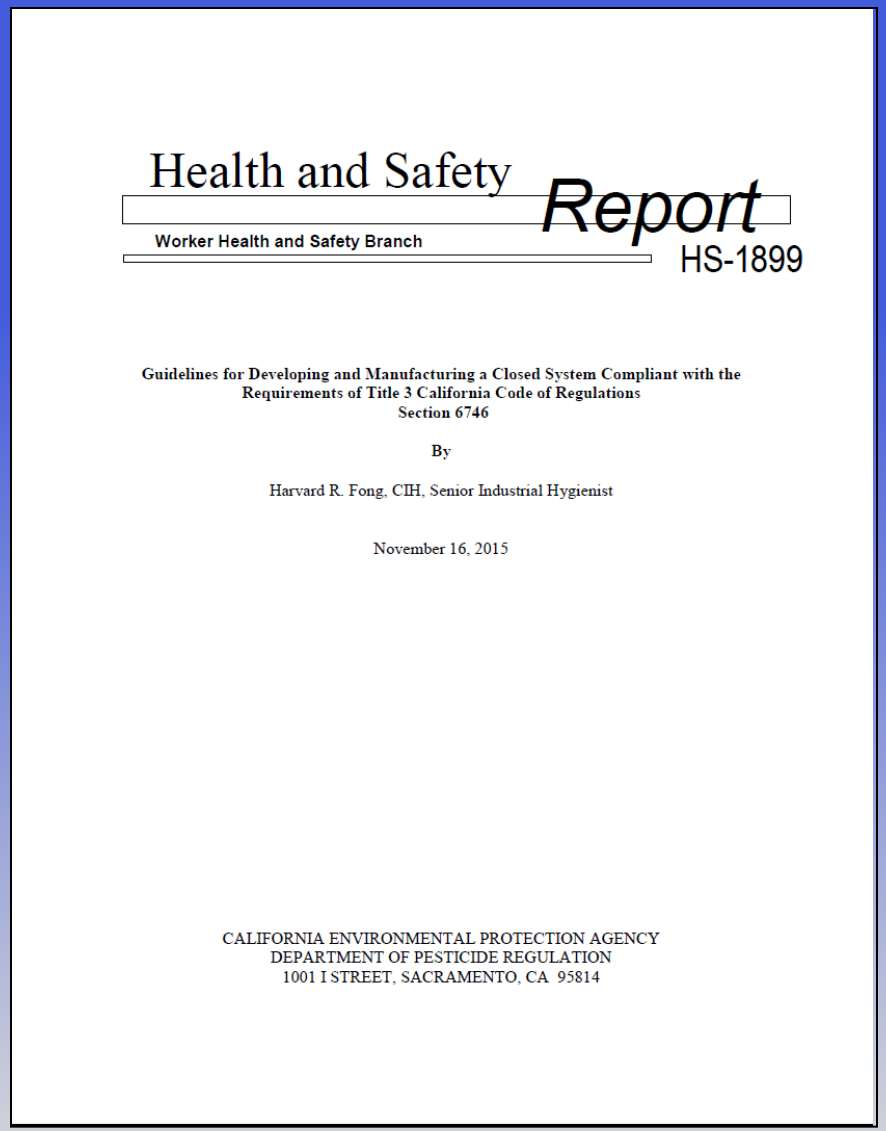
- Instructions must include:
  - Operating procedures
  - Maintenance cleaning and repair instructions
  - Restrictions/limitations of the equipment
  - Procedures for handling partials (if applicable)
- System must be maintained as specified in the written operating instructions.
- DPR website for reference

Closed Mixing System Requirements
Section 6746 (h)

Exemptions:

- Label mandated method or device
- Foil seal removal/reseal is not a violation
- Regulatory sampling
- Returnable containers not required to rinse
- Daily 1 gallon or less of Tier II material

Closed Systems



Health and Safety Report

Worker Health and Safety Branch

HS-1899

Guidelines for Developing and Manufacturing a Closed System Compliant with the Requirements of Title 3 California Code of Regulations Section 6746

By

Harvard R. Fong, CIH, Senior Industrial Hygienist

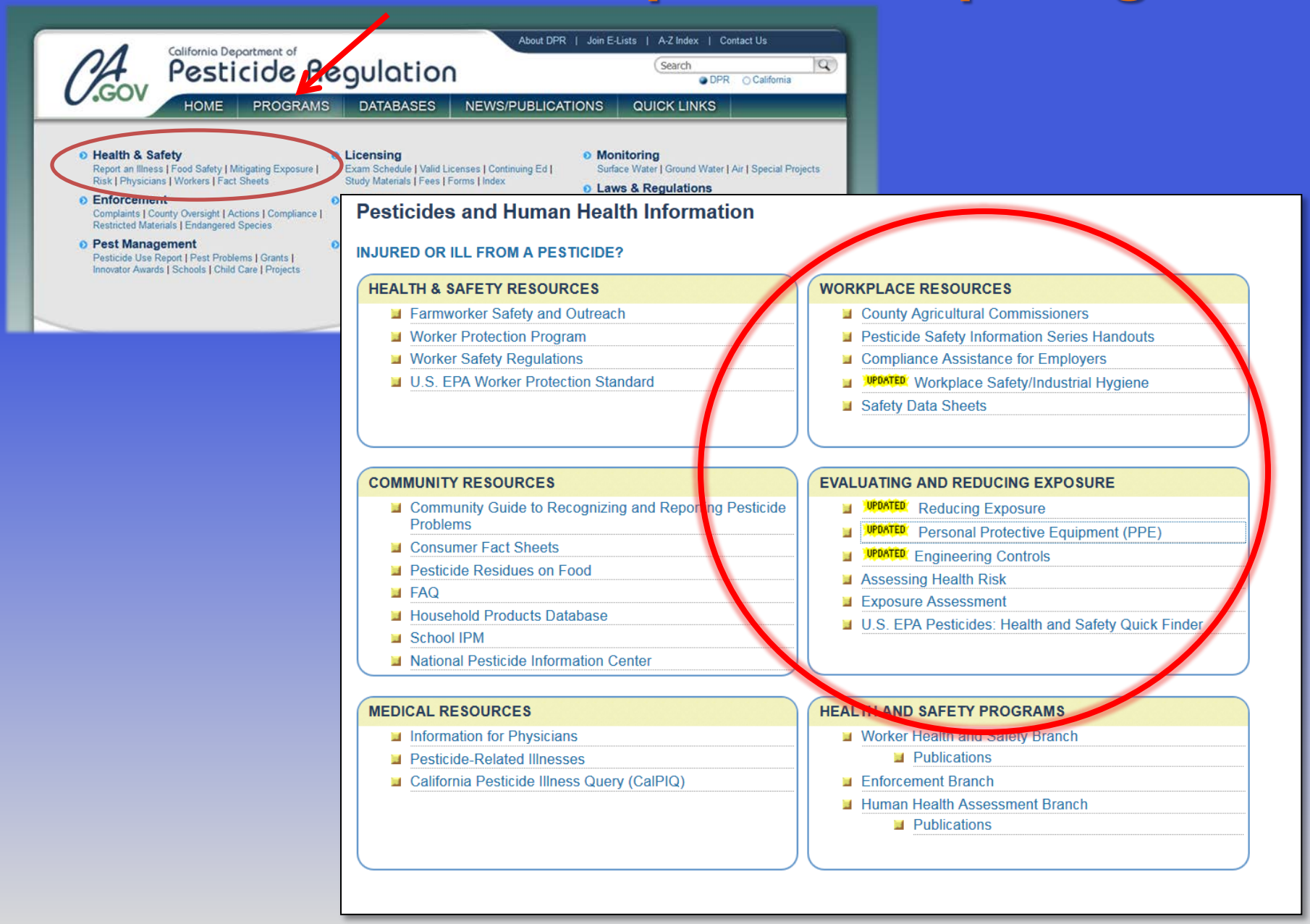
November 16, 2015

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF PESTICIDE REGULATION
1001 I STREET, SACRAMENTO, CA 95814

For guidance on developing a closed system, WH&S has created HS Report 1899.

This is available at www.cdpr.ca.gov

CDPR Website: http://www.cdpr.ca.gov/



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