

The New Cholinesterase Monitoring Rule



12/30/03

Background

- 1993 – Voluntary recommendations
- 1995 – TAG report
- 2002 – *Rios decision*

Cholinesterase Monitoring Rule

- Chapter 296-307-148,
WAC
- Effective date: **February
1, 2004**



Intent of the New Rule

“To identify pesticide handlers with depressed cholinesterase levels before illness occurs.”

Cholinesterase (ChE)

- Enzyme present in the nervous system and other tissues
- Acts as the nervous system's “Off Switch” by removing the neurotransmitter acetylcholine

Exposure to Cholinesterase-inhibiting Pesticides

- **Overexposure decreases available cholinesterase**
- **May result in over stimulation of the nervous system.**

Symptoms of Cholinesterase Depression

- **Headaches**
- **Muscle twitch or weakness**
- **Shortness of breath**
- **Diarrhea**
- **Convulsions**
- **Coma**
- **Dizziness**
- **Nausea**
- **Stomach pain**
- **Anxiety**
- **Pinpoint pupils**

Cholinesterase-inhibiting Pesticides*

□ Organophosphates

- Guthion
- Lorsban
- Imidan
- Monitor
- Mocap

□ N-methyl- carbamates

- Sevin
- Temik
- Lannate
- Vydate

These are only examples for a full list go to the WSDA pesticide page

Cholinesterase Testing

- **Simple blood tests**
- **Measures both red blood cell (RBC) and plasma cholinesterase (ChE)**
- **Periodic tests compared to individual's baseline**
- **Change in blood ChE levels reflect change in nervous system ChE levels**

What does this Rule Require?

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Maintain Handling Records

296-307-14805

- Documents all time each employee spends handling the covered pesticide.
- Handling records must be kept for 7 years
- Accessible to employees and medical professionals

Handling Includes

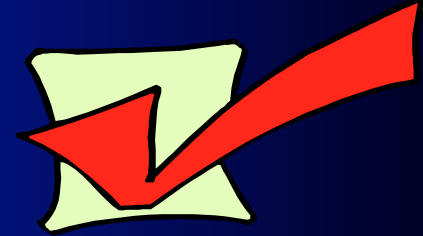
- **Mixing, Loading, Transferring**
- **Applying**
- **Handling Opened Containers**
- **Disposing of pesticide or containers**
- **Maintenance of contaminated equipment**

Monitoring Thresholds

WAC 296-307-14810

- **Beginning February 1, 2004, employees who handle covered pesticides for 50 or more hours in any consecutive 30-day period**
- ***Beginning February 1, 2005, employees who handle covered pesticides for 30 or more hours in any consecutive 30-day period**

Exemptions



- Employees who handle only N-methyl-carbamate pesticides will be exempt from the both the baseline and periodic monitoring requirement.
- Hours spent mixing and loading using closed systems (Lock 'N Load, soluble packets or “solupak”) will not be counted for *periodic* testing.

Obtain a Medical Provider

WAC 296-307-14815

- Contract with a medical provider to:**
 - Provide baseline and periodic cholinesterase testing**
 - Interpret tests and make recommendations**
- The provider must use the Washington State Department of Health Laboratory.**

Make testing available

WAC 296-307-14820

Make testing available to all employees who will meet the exposure threshold:

- Do baseline testing *each year* at least 30 days since last exposure to covered pesticides

Make testing available (continued)

WAC 296-307-14820

– Do *Periodic* testing:*

- Once every 30 days;

OR...

- Within 3 days of any 30-day period where the employee has met or exceeded the handling hours threshold.

Employer response to a 20% decrease in cholinesterase levels from the baseline:

□ Evaluate:

- Work practices**
- Protective Clothing**
- Respirator**
- Sanitation**



Employer Response to a 30% decrease in red blood cell or a 40% decrease in plasma cholinesterase levels:

- ☐ Temporarily remove the employee from exposure**
- ☐ Evaluate your worker protection program**

Employer Response to a 30% decrease in red blood cell or a 40% decrease in plasma cholinesterase levels (continued):

- **Return the employee to handling or other exposures to covered pesticides *when levels return to within 20% of baseline***

Provide Medical Removal Protection

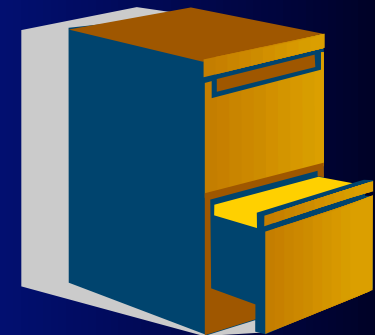
WAC 296-307-14830

- Employers must maintain the employee's pay, benefits and seniority**
- Protection will not exceed 3 months**

What other records must be maintained? WAC 296-307-14835

□ **Maintain the following records for 7 years**

- **Name of medical provider**
- **Cholinesterase test results***
- **Medical provider recommendations**
- **Work practice evaluations**
- **Medical removal dates**
- **Declination forms**



**Your medical provider will retain test results and any personal medical information for you*

Provide training

WAC 296-307-14840

□ **Ensure employees receive training that includes***

- **The health hazards of organophosphate and N-methyl-carbamate pesticides**
- **The purpose and requirements of cholinesterase monitoring**

**Can be provided along with current handler training*



Questions?

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