Toxics in Construction
Training of Trainers

PROTECT
PROACTIVE RESPONSE TO OCCUPATIONAL TOXIC EXPOSURES IN THE CONSTRUCTION TRADES

State Building and Construction Trades Council of California
and the
Labor Occupational Health Program
University of California, Berkeley
2014
Acknowledgements

The State Building and Construction Trades Council of California (SBCTC) acknowledges the following organizations that provided information for this course:

- Cal/OSHA
- Construction Safety Council, Illinois
- Center for Construction Research & Training (CPWR)
- Canadian Centre for Occupational Health and Safety (CCOHS)
- Federal OSHA
- International Brotherhood of Teamsters
- Labor Occupational Health Program (LOHP)
- New York Department of Public Health
- Occupational Health Branch (OHB), California Department of Public Health
- State Compensation Insurance Fund (SCIF)
- WISHA (Washington Industrial Safety and Health Act)
- The Commission on Health and Safety and Workers' Compensation, California, Department of Industrial Relations, Worker Occupational Safety and Health (WOSH) Specialist Training Program

For more information, contact:

Laura Boatman, Project Coordinator
State Building & Construction Trades Council of California (SBCTC)
1231 I Street, Suite 302
Sacramento, CA 95814
Phone: 916-443-3302
Fax: 916-443-8204
Website: http://safety.sbctc.org/

Nazima El-Askari, MPH, Program Coordinator
Labor Occupational Health Program (LOHP)
University of California, Berkeley
2223 Fulton St. 4th Floor
Berkeley, CA 94720-5120
Phone: 510-642-5507
Fax: 510-643-5698
Website: http://www.lohp.org/

This training is supported under grant number SH-24900-13-60-F-6 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.
Course Objectives

After completing this course, participants will be able to:

1. Explain what makes a toxic substance likely to cause harm.

2. Discuss how toxic substances can affect your health.

3. Define terms used in OSHA exposure limits.

4. Review the hierarchy of controls and identify ways to eliminate toxic substances in construction.

5. List the key components of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

6. Discuss the hazards of silica, asbestos and lead dust.
Toxics In Construction
State Building & Construction Trades Council of CA
Train-the-Trainer Course 2014

Table of Contents

- Title Page
- Acknowledgements Page
- Course Objectives
- Table of Contents
- How The Binder Is Organized

Section 1: Agenda/Evaluation
- Agenda
- What Do You Know About Cal/OSHA (Quiz)
- Pre-Test and Post-Test
- Train the Trainer Course Evaluation

Section 2: Instructor’s Guide

Section 3: Curriculum and PowerPoint Slides

Section 4: Health Effects of Toxic Substances
- Chemical Hazards Factsheet
- Construction Jobs Chart
- Health Hazards in Construction: Units of Concentration
- How Workplace Chemicals Enter the Body
- What Makes Chemicals Poisonous
- Physician’s Alert: Occupational Contact Dermatitis

Section 5: Controlling Hazards
- Worker Fatality Alert: Methylene Chloride Linked to Worker Death in Tank
- Hierarchy of Controls

Section 6: Global Harmonization Standard (GHS)
- OSHA Factsheet: Hazard Communication Standard Final Rule
- OSHA Quick Cards for HCS Labels, Pictograms, and SDSs

Section 7: Safety Data Sheets (SDSs)
- SDS Worksheet
- Acetylene
- Asbestos, White
- Lead
- Petroleum Asphalt
- Henkel Zinc Phosphate Coating

A project of the State Building & Construction Trades Council of California ©2014
# Table of Contents (cont’d)

**Section 8: Silica**
- OSHA Factsheet: Crystalline Silica
- OSHA’s Proposed Crystalline Silica Rule: Overview
- Hazards of Silica in Construction
- Silica Hazard Alert
- Silica: Are You in Danger?
- Working with Cement Roofing Tiles: A Silica Hazard

**Section 9: Asbestos**
- OSHA Factsheet: Asbestos
- Asbestos and Health: Frequently Asked Questions
- Asbestos in Construction Hazard Alert
- Asbestos-Containing Materials
- Asbestos Removal

**Section 10: Lead**
- Protecting Workers from Lead Hazards
- Lead in Construction: Protect Yourself
- Lead in Construction: Cal/OSHA Factsheet

**Section 11: PPE**
- Construction Personal Protective Equipment
- Hazard Assessment Tool for Shops

**Section 12: Factsheets on Other Hazards**
- Asphalt
  - Hot Mix Asphalt Emissions
  - Oxidized Asphalt Fact Sheet
- Cement and Concrete
  - Skin Problems in Construction
  - Save Your Skin
- Hexavalent Chromium
  - Health Effects of Hexavalent Chromium
  - Hexavalent Chromium Hazards in Bridge Painting
  - Hexavalent Chromium Fact Sheet
  - Hexavalent Chromium Exposure Control
- Isocyanates
  - SPF Insulation: Is it Safe for Workers?
  - Isocyanates Fact Sheet
Table of Contents (cont’d)

- Respirators
  - General Respiratory Protection Guidelines
  - Respirators: Protect Yourself
  - Respirator Review
- Solvents and Paints
  - Hazard Alert: Solvents in Construction
  - Factsheet: Thinners and Solvents
  - Paint Stripping Products Poster
  - Minimum PPE Required for Paint Stripping
- Valley Fever
  - Preventing Work-Related Coccidioidomycosis (Valley Fever)
- Welding Fumes
  - Controlling Hazardous Fumes and Gases During Welding
  - Welding Fumes and Gases Hazard Alert
  - CPWR Hazard Alert: Welding Fumes and Gases
  - Metal Fume Fever

Section 13: Training Tips

- How Adults Learn Best, WOSH Specialist Training
- Training Steps, WOSH Specialist Training
- Aim at What is Essential to Know, WOSH Specialist Training
- Memory and Learning Methods, WOSH Specialist Training
- Teaching Methods Chart, WOSH Specialist Training
- Training Evaluation Checklist
- Worksheet: Your Training Plan, WOSH Specialist Training

Section 14: Resources

- Resource List
- Glossary of Terms

Section 15: SBCTC Training Forms
How The Binder Is Organized

This training program consists of this course binder and DVD. On the DVD is the curriculum, a PowerPoint (PPT), two videos on Silica (one produced by the SBCTC), and all of the materials located in this course binder. The DVD is located in the inside pocket of the binder.

**DVD.** The PowerPoint presentation on the DVD addresses toxic substances in construction. The curriculum to teach the course and a paper copy of the PowerPoint presentation appears in section 3 of this binder. This program can be presented at one time in approximately 3 hours. The curriculum has an “At A Glance” section at the beginning that describes the 6 sessions and approximately how long they take to teach.

**Videos.** There are two videos on silica and construction on the course DVD. They include a Worksafe BC video: *How Silica Harms Your Lungs* (2 minutes long) and a SBCTC video: *Eliminate the Hazard* (8 minutes long).

**Factsheets.** The factsheets referred to in the curriculum are located by topic in the binder. The factsheets come from reputable sources and are provided for training purposes only. The SBCTC is not responsible for the accuracy of these materials or for changes that may have occurred after the original publication date. Any reliance you place on such information is therefore strictly at your own risk. We suggest you contact Cal/OSHA for current regulatory compliance information.

**Training Tips.** Section 13 of the binder has information on training techniques that you may find helpful when presenting this program to others. These factsheets are from the Worker Occupational Safety and Health Training and Education Program (WOSHTEP), funded by the California Commission on Health and Safety and Workers’ Compensation.

**Resources.** There is a resource list and a construction glossary in section 14 of the binder. You can find useful references on toxic substances used in construction in the resource list.